The Boston Medical and Surgical Journal

Table of Contents

March 25, 1915

ADDRESS.

THE RÔLE OF THE STATE SANATORIUM IN THE TUBERCULOSIS PROBLEM. *By Elliott Washburn, M.D.*, Rutland, Mass..... 429

ORIGINAL ARTICLES.

REMARKS ON THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS. *By Bayard T. Crane, M.D.*, Rutland, Mass... 433

MORTALITY AFTER PROSTATECTOMY BASED ON A STUDY OF 229 FATAL RESULTS. *By Benjamin Tenney, M.D.*, Boston, and *Henry M. Chase, M.D.*, Boston..... 437

A STUDY OF THE EFFICIENCY OF MIXED TOXINS (COLEY) IN INOPERABLE SARCOMA. A CRITICAL ANALYSIS OF 134 MICROSCOPICALLY PROVEN CASES. *By Torr Wagner Harmer, M.D.*, Boston. (Concluded.)..... 440

MEDICAL PROGRESS.

EIGHTH REPORT OF PROGRESS IN ORTHOPAEDIC SURGERY *By Robert B. Osgood, M.D.; Robert Soutter, M.D.; Hermann Bucholz, M.D.; Harry C. Low, M.D.*; and *Murray S. Danforth, M.D.*, Boston. (Continued.)..... 448

REPORTS OF SOCIETIES.

SECTION OF GENERAL INFORMATION OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. MEETING OF DECEMBER 14, 1914.. 452

BOOK REVIEWS.

Forty-Sixth Annual Report of the Secretary of State on the Registration of Births and Deaths, and Marriages and Divorces, in Michigan for the Year 1912..... 453

EDITORIALS.

THE LABOR CLEAN MILK BILL AGAIN..... 454

FACTORS IN THE DURATION OF PULMONARY TUBERCULOSIS..... 455

THE IMPORTANCE OF REST IN THE TREATMENT OF GRAVES' DISEASE..... 456

SALARIES OF DISTRICT HEALTH OFFICERS..... 457

ENFORCEMENT OF LAW FOR LOCAL TUBERCULOSIS INSTITUTIONS.. 457

MEDICAL NOTES..... 458

OBITUARY.

RIGHT HON. SIR GEORGE TURNER, F.C.M.G., M.D., LL.D..... 461

CORRESPONDENCE.

THE WOUNDED ON THE FRENCH BATTLE LINE. *"S."*..... 463

PATENT MEDICINES AND QUACKERY. *Hugh P. Greeley, M.D.*..... 465

MISCELLANY.

MEDICAL EDUCATION IN CHINA..... 461

CHANGES IN THE MEDICAL CORPS, U. S. NAVY..... 465

BELGIAN PHYSICIANS' RELIEF FUND..... 465

INTERSTATE ASSOCIATION OF ANESTHETISTS..... 466

U. S. CIVIL SERVICE EXAMINATION..... 466

NOTICES, APPOINTMENTS, RESIGNATIONS, RECENT DEATHS, BOOKS AND PAMPHLETS RECEIVED..... 466

Address

THE RÔLE OF THE STATE SANATORIUM IN THE TUBERCULOSIS PROBLEM.*

BY ELLIOTT WASHBURN, M.D., RUTLAND, MASS.,

Superintendent, Rutland State Sanatorium, Rutland, Mass.

IN Massachusetts, as elsewhere, the tuberculosis problem is the care, relief and cure, if possible, of those afflicted with the disease and the prevention of its spread to those not so afflicted.

In our attempts to solve the problem we have several existing agencies, which may be classified as State, Municipal and Private.

Of private agencies we have anti-tuberculosis societies and various philanthropic organizations which maintain tuberculosis camps, dispensaries and clinics, tuberculosis nurses, visiting nurses and social service workers.

Municipal agencies comprise local boards of health, municipal hospitals and dispensaries for the care of the tubercular, visiting nurses, and medical inspectors of school children.

The agencies maintained by the State include the Trustees of Hospitals for Consumptives, the State Department of Health, State Inspectors of Health, Industrial Health Inspectors, four State Sanatoria for the tubercular, the tuberculosis wards of the State Infirmary at Tewksbury, the Prison Hospital for the reception of male tubercular prisoners, the tuberculosis wards of the various state hospitals for the insane, and the follow-up nurse of the Trustees of Hospitals for Consumptives.

In this problem what is the rôle of the state sanatorium? How is it performing this rôle? Do the results obtained justify the expenditure of the large sums of money necessary for its maintenance and continuance?

The first state sanatorium in Massachusetts, and for that matter in the United States, was established at Rutland and opened its doors October 1, 1898. The original intent of those through whose wisdom and influence the sanatorium was made possible, was to provide a place in which early and favorable cases of pulmonary tuberculosis might, in the first instance, be restored to health and earning capacity, and, in the second instance, might become so educated at the sanatorium in the steps and precautions necessary to prevent the spread of the disease that upon returning to their homes they might act as disciples or apostles to carry the doctrine of prevention broadcast throughout the state or wherever they chanced to go.

As time went on it was found that this initial scope of the sanatorium was too narrow; that while it provided for the care of the early and favorable case it made no allowance for the care of that case which was advanced to the stage where hope of its arrest was either much lessened or was wholly lost, and which was often far more dangerous to the health of the community in which it existed than was the early case. Thus it became necessary in the absence of local facilities for the hospital care of such cases for

* Read before the Medical Association of Northern Berkshire, at North Adams, Mass.

the state to establish and maintain other sanatoria in which cases of the disease in all its stages might be received. So that to the original two functions of the state sanatorium was added this third, the care of the advanced case, not so much with the thought of getting him well as of removing from his home and community an active focus of the spread of the disease. Rutland was still reserved, and today is still reserved, as much as possible for the reception of the early cases.

Time next demonstrated that while it was possible for the sanatorium to carry out in a satisfactory manner the first two of its functions it was not always possible to do so in the case of this third function—the care of the advanced case—because in many instances these advanced cases, placed in the state sanatoria far removed from their homes, refused to remain there and insisted upon returning to their homes. This was the not unnatural instinct of persons very ill and weekly growing worse, to be at home with their families and friends. To this fact, perhaps more than to any other, is due the establishment of local or municipal hospitals for the care of this disease, which is now mandatory upon cities in this Commonwealth and upon towns when so requested by the State Department of Health. The supreme hope is that eventually enough of these municipal hospitals will be established to care for most of the advanced cases which need hospital care and have established a legal settlement in their respective cities and towns. This would leave the state sanatoria for the care of the early cases and for such advanced cases as are "State cases" so called,—that is to say, those who have no municipal settlement, which would to a large extent do away with the present long waiting list of applicants for admission to all of the state sanatoria. Early cases are, as a rule, contented to remain in a state sanatorium, even if at some distance from home, so long as they continue to show improvement.

We find, therefore, that the rôle of the state sanatorium is of a three-fold nature,—the care and arrest of favorable cases, the education of its patients to the end that they may disseminate their knowledge of the methods necessary to prevent the spread of the disease, and the care of advanced cases, which makes possible their removal as foci of disease in their homes and communities.

How are the several functions of its rôle being performed?

In the sanatorium the care and arrest of favorable cases stands upon a tripod, of which one leg is rest, one leg is fresh air, and the third is a combination of a regulated diet and supervised exercise and work. To my mind the relative importance of the pedal extremities of this tripod is in this same order. Drug medicines play an extremely minor part in the "treatment" and unless used in connection with these three principal methods of attack ordinarily will utterly fail. Nor does the physician in private practice who prescribes medicine for his tuberculous patient, and stops there, fulfill his entire obligation to his patient.

Again, the sanatorium finds that rest, air and regulated life are not in themselves sufficient to restore favorable-stage patients to health and working capacity. The co-operation of the patient himself is a highly important factor; without it the "treatment" is not given a fair chance. Thus there enters the question of the personal equation of every patient, his temperament, his mental make-up, his willingness to carry out his instructions and the sanatorium rules in regard to the details of the treatment. So that we find today in our state sanatoria that we have to deal with two very distinct classes of patients and we so classify them, the "Sanatorium or Co-operating or I'll try" class and the "Hospital or Non-co-operating or I dont't much care." class. Already it has been demonstrated that more recoveries and more improved cases occur in patients of the "Sanatorium" class than in patients of the "Hospital" class. Those of the first class carry out the treatment as it is outlined for them to the best of their ability. Those of the second class either are careless and indifferent in their attitude or else are openly defiant to the rules laid down for the improvement of their physical welfare. The records show that those of the second class pay physically a heavy penalty for their indifference, neglect or willfulness.

More and more it is coming to be recognized that the sanatorium has not performed its whole duty to its favorable cases when it has merely restored them to health. They need something else which is quite essential and indeed vital to their future and that is their restoration to working, earning capacity. There is grave danger that prolonged residence in the sanatorium may, as Dr. Herman Biggs has so well said, "convert working invalids into fairly healthy loafers." Many enter the sanatorium who work almost up to the day of admission. The inherent danger exists that some may leave the sanatorium, restored to health, it is true, but by their long stay in the sanatorium rendered so "soft" so "out of training" for the task of earning their own living and, in some instances I fear, so saturated with the fixed idea that the State must take care of them, that they return to their communities unfit, physically and temperamentally, to work at supporting wages until after considerable periods of time have elapsed. I would by no means give the impression that this is true of all cases; far from it; but in some instances it does occur. In what way does the sanatorium seek to avoid this unfortunate phase? By a system of graduated and supervised work while in the sanatorium. Work is a necessary and important part of the treatment, graduated and carefully supervised work, commencing with a half hour daily and working slowly up to six or seven hours daily work of such

kind as the sanatorium is able to provide. And in this last clause we find a weak spot in our treatment and a hindrance to the effective carrying out of our plan, for the sanatorium is able to provide only a limited amount of work and of very limited kinds.

The ideal carrying out of the plan would provide for every patient work similar to that to which his ante-sanatorium life has accustomed him. This is obviously out of the question in the sanatorium and all that we can provide is light work about the wards and grounds with an occasional job at carpentering for the men and sewing for the women. We need workshops in which light manual labor of a productive kind may be carried on under the watchful supervision of an officer paid for that sole purpose.

Such graduated, supervised work not only serves to occupy the patients' minds, to relieve the tedium of their sanatorium life and to keep them contented and out of mischief, but it serves the more important purpose of putting them in such physical condition that upon leaving the sanatorium they can at once enter upon a productive and self supporting life. So I say that such work is a very essential part of the treatment.

Occasionally we find the patient who flatly states that he does not propose to do any work unless he is paid for it; that he does not intend to work for the State for nothing. For such ingrates the Trustees have provided a remedy—dismissal. The law forbids our paying for such work, although in some sanatoria in other states, notably at Otisville, New York, the plan of paying patients for work has been found to work very well inasmuch as patients are thus enabled to send money home to their families and are themselves enabled to stay longer at the sanatorium than they otherwise would be able to stay.

At Rutland, ever since its opening, the custom has prevailed of taking suitable persons on as paid workers upon their discharge as patients. Through this custom many have been enabled to live and support themselves who might otherwise have been obliged to return to unsuitable, or unhealthy, conditions of climate, home surroundings or occupations, and who in all likelihood would under such conditions have broken down or become permanent dependents or have died. This custom, although it possesses certain advantages to the ex-patients as outlined, has also certain disadvantages as far as the economy and efficiency of sanatorium administration are concerned, into which we will not go. At the present time approximately fifty per cent. of all employees upon the Rutland pay-roll were at one time or another patients in the sanatorium.

The second function in the rôle of the state sanatorium is the education of its patients, its nurses, physicians and other employees. As far as the patients are concerned this education is imparted by talks to groups of patients or by individual conferences with individual patients but to a much greater extent by their constant observation of the methods employed at the sanatorium in the prevention of the spread of the disease from the sick to the well. Even patients of the "Hospital" class unconsciously assimilate considerable education in this manner while the majority of all patients are eager to learn not only how they themselves contracted the disease but also how they may when they leave the sanatorium instruct others in its prevention.

This educative function of the sanatorium should properly include the instruction of the medical profession. There is in our state sanatoria a magnificently neglected opportunity for physicians to perfect themselves in the diagnosis and care of pulmonary tuberculosis. An abundance of clinical material, well equipped laboratory facilities, a hearty invitation to physicians and a cordial welcome on the part of our medical staffs have not served, save in rare instances, to overcome their reluctance to travel a few miles out of the beaten paths or the instinctive dislike of things tubercular which extends even to the medical profession itself. This opportunity is freely offered to the medical profession. It is seldom improved.

The third function, the care of advanced cases, is fulfilled by the provision of proper medical care for such cases and by making their last months and days as comfortable as possible. These are the open, active cases, many of them alternately ambulatory and bed cases for long periods of time, which are dangerous to the health of their homes and communities unless they can be cared for in a state sanatorium, a municipal tuberculosis hospital, or in their own homes under proper and competent guidance which is often impossible and oftener impracticable.

In the performance of this function the sanatorium is handicapped by the fact already mentioned of the difficulty in keeping advanced cases in a state sanatorium, far from their homes, when they find that they are gliding down hill physically. This desire to return home plus the fact that many cities and towns have no adequate facilities for the reception and care of such cases results in the return of these patients to their homes where in many instances the care afforded to the patient and the protection rendered to his family are neither adequate nor satisfactory. Thus in a measure this function of the sanatorium is defeated and the State has wasted time and money on such patients to the detriment of more favorable cases who have been kept out of the sanatorium because the beds were filled.

Still again we have to deal with that class of dangerous consumptives who have been styled the "incorrigible," the "unteachable" the "wilfully careless" consumptives. These often appear to care for no one but themselves and sometimes not even for themselves. These are they who through ignorance, wilfulness or just sheer "cussedness" neglect or refuse to take any

necessary precaution, who wilfully and flagrantly violate the spirit and the letter of all sanatorium laws and rules and of similar laws in their own communities and homes, who through the abuse of alcohol or otherwise, even in the sanatorium, deliberately offset any physical good that the sanatorium can possibly offer to them. These are thirty-third degree members of the "Hospital" class. What of them? We cannot hold them in the face of their violation of our rules; we have to discharge them; usually we are glad to see them go. And yet of all consumptives they are the greatest menace to the public health. They drift from one sanatorium to another until the doors of all have been closed to them because of their own faults and mis-behaviour. No law, or at least none so plainly written that the average local board of health dares to enforce it, exists for the compulsory isolation of this type of patient. The legislature in its wisdom has repeatedly refused to pass such a salutary measure and yet without it much of the effort of the Commonwealth in the tuberculosis problem inevitably comes to naught. Furthermore, there is no place in which these patients may be so isolated. The sanatorium cannot hold a patient against his will. We have no option in the matter. So we find ourselves and you in your communities find yourselves with no real remedy against this very real and dangerous phase of the problem. Under existing conditions money expended on these individuals is thrown away. It is patients of this class who make the life of the superintendent of a sanatorium anything but a bed of roses. The very patients of all patients who ought to be held we are obliged to discharge back in their communities in order to preserve sanatorium order, decency and discipline.

Now is all this worth while? Does the Commonwealth receive an adequate return for its expenditures? Is sanatorium treatment worth while?

How shall we estimate the results except by the number of persons restored to health and earning capacity who return to their communities fit to resume their positions as productive members of the body politic; and by the educative influence which they exert upon those communities; and by the number of foci of disease removed from homes and communities.

With numerical statements I shall not bore or confuse you. We have them, however, and they bear out in every way the statement that the results do justify the expenditure of the large sums necessary to maintain and continue state sanatoria in Massachusetts.

In a paper appearing in the BOSTON MEDICAL AND SURGICAL JOURNAL under date of March 19, 1914, and the caption "Is Sanatorium Treatment Worth While?" Miss Gertrude L. Farmer of the Social Service Department of the Massachusetts General Hospital studied the results of sending 419 patients who appeared at that department to the state sanatoria. Her conclusions, in part, somewhat changed as to wording but not in spirit or intent, follow:

"Owing to the limited number of beds provided in the Commonwealth for the care of its consumptives it is apparent that the State Sanatoria have so far played a relatively small part in caring for individuals. Their educative value cannot be computed. The discharged patients have carried the gospel of hygienic living to thousands. The day seems far distant when state care for the phthisical patient will be so organized that private societies can withdraw from the field. Only in few, if any, localities is municipal work able to fill the gap."

The gradual and continuous establishment of municipal hospitals and dispensaries, the beds in which already total almost 1500, will as time goes on slowly relieve the strain upon the state sanatoria and in a measure will fill the gap to which Miss Farmer alludes. Nor should we overlook the value of the work which has been done by the follow-up nurse employed by the Trustees of Hospitals for Consumptives in relation to patients discharged from the sanatoria.

Many have been restored to permanent, full time earning capacity; many have been restored permanently to part time working capacity; many others to temporary working capacity in full or in part; many others have been enabled to prolong their days on earth even if unable to resume productive labor; still again the last days of many more have been made comfortable and pleasant. The benefit to community health by the removal of inherently dangerous foci of disease through their isolation in state sanatoria cannot be adequately estimated although it must be great.

It is true that many cases upon returning to their homes fail to hold the gain which they made at the sanatorium; it is true that many are obliged to return to the sanatorium a second or even a third time; it is true that in the case of "incorrigibles" most of our time, effort and money is wasted. On the other hand it is also true that many of these physical lapses are the direct result of improper home conditions, or of unhygienic surroundings in places of employment, or in the majority of instances, of the faulty spirit of the patient himself in neglecting to carry out at home the principles of treatment which he learned at the sanatorium. The sanatorium is not willing to assume the responsibility for such lapses under such conditions nor should they be charged against its account in the determination of its real value.

Beyond question restoration to health and working capacity is of great value and likewise is the removal of foci of dangerous disease but, it seems to me, beyond both of these is the importance of the key-note which Miss Farmer sounded, that discharged patients have carried and continue to carry to unknown thousands the gospel of the method of prevention of the spread of this most pitiful disease.

These three benefits bestowed by the sanator-

ium constitute the state's recompense for its expenditures and warrant the continuance of its efforts to relieve the burden of tuberculosis in this Commonwealth in spite of the fact, that cannot be denied, that the money, time and effort expended upon the "tramp," "malicious" and "incorrigible" types of patients, who obtain entrance to the sanatorium and pull down its standards, are absolutely wasted, which will assuredly continue to hold true until some other provision is made for such types.

Original Articles.

REMARKS ON THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS.*

BY BAYARD T. CRANE, M.D., RUTLAND, MASS.

DIAGNOSIS.

IT was no less an authority than Sir William Osler who said that the family physician is a most important factor in the eradication of tuberculosis since he is the first to be consulted when illness arises.

This fact will stand extremely strong emphasis. In fact, is there a more important single principle in the entire tuberculosis situation today? In the future, compulsory examinations of a large part of the public may be adopted—examination of pupils, students, teachers, factory employees, club and lodge members, city, state and national employees—whereby the responsibility for recognition of this disease may be placed upon special agents chosen for this work, but until this or some other innovation is adopted, the indisputable fact remains that in this country the family physician, whether he wishes it or not, whether he realizes it or not, stands almost alone in the front rank, opposing the onslaught of this disease. Surely this is no light responsibility!

The profession in this State has improved in ability to diagnose early tuberculosis since the establishment of public sanatoria, albeit errors in diagnosis and delays in diagnosis are still rampant. Upward of four thousand (4000) persons die annually in this State of this disease and it is not proper to fail to realize that some of these deaths are due directly to the errors and delays in diagnosis.

The general practitioner is in an unenviable position—in fact he is, in my opinion, in an irrational position in that it is his expected task so to watch over the populace that he shall detect this disease (and that always early), freeing humanity thereby of its most dread scourge, *but* he must do this by means of the bare diagnostic powers acquired during a general medical education.

We will not deny that the profession has made great advances in scientific accuracy in many lines, nor that it has many glorious conquests to its credit, all within recent years, nor will we deny a great adaptability and tolerance to changing conditions, but we can not justly expect the general practitioner to acquire and display expert medical knowledge in all branches of his activities, nor can he be expected to display refined diagnostic skill in branches which were not appropriately taught him in his student days and in which, since graduation, he has not had the necessary opportunities to perfect himself.

It seems to me that those who have "berated the general practitioner in season and out of season for his dereliction" have been too optimistic about the ease of acquiring the necessary skill to detect early tuberculosis, forgetting that they themselves spent months, and more usually years, in intimate contact with the disease before they unlearned the mis-conceptions they had previously acquired and before they considered themselves dependable to make an early diagnosis. Are we not, in short, straining for the impracticable and perhaps unattainable when we attempt to train the general practitioner, with his multiform duties, invariably to detect early tuberculosis?

I take it that it is hardly necessary to reiterate the profound advantages in material economy, and in human happiness, which result from early detection of this disease in comparison to detection in its later stages. I will merely state that seven times better results are obtained in incipient cases than in the far advanced cases, and four times better results are obtained in incipient cases than in the moderately advanced cases. It may be properly asked, "By what means, then, other than by the general practitioner, may the general detection of early tuberculosis be made?"

The reply is that no means yet employed can guarantee at once such general, invariable detection, but in some way specially trained physicians must come into intimate contact with the masses. As it is now in this country, examinations are made only with the voluntary consent of the examined and, in the case of the illiterate and uneducated classes, the cause of delays in diagnosis are largely due to this same illiteracy, lack of education and attendant poverty. By some method, then, it would seem necessary to make skilled routine examination compulsory among the illiterate and uneducated classes at least. This suggestion opens up a tremendous field for the operation of ingenuity, influence, and aggressive work on the part of the enlightened medical profession. Massachusetts, to hold its prestige, must hasten to take this advanced view.

Lastly, the general medical public must ac-

* Read at a meeting of the Worcester District Medical Society held December, 1914.

knowledge that modern tuberculosis has created a new order of things and that old principles are not comprehensive enough now.

The eradication of this social scourge must depend, as far as the profession is concerned, upon early detection *at any cost*, and then upon an insistent, aggressive mastery and thorough control of the patient, also *at any cost*, until he is wholly well or at least until perfectly trained as to his responsibilities and power of infecting others.

To carry out these requirements, the medical profession must possess courage, insight, industry, and at times, self-sacrifice.

Hazy doubts in diagnosis should be cleared away promptly by consultations, and if a complete control of the patient is not possible at home, he must be sent away where sufficient control can be had.

What are the causes of failure to detect tuberculosis?

They are the same cases that have existed from the outset, though it is undoubted that they are gradually diminishing. They still consist of

(1) Delays in making diagnosis, and
(2) Errors in Diagnosis.

DELAYS IN DIAGNOSIS UNTIL THE DISEASE HAS PASSED BEYOND THE EARLY STAGES.

The delays arise most often, I believe, from inability to detect the slight changes from the normal in physical signs and symptoms, but they also arise from a failure to apply the findings to their logical place. It is a case of the absence of a clear, accurate mental picture of tuberculosis in its outset. To be able to detect early tuberculosis requires a talented use of the stethoscope, a keen ear, and a power to discriminate between the normal and a slight variation from the normal in many bodily functions.

It is difficult to make general interpretations on this subject, but it is justifiable to state that there still seems to be an adherence to the older traditions and teachings about "Consumption" that existed before sanatoria were established, and we continue to make our diagnoses on such clinical symptoms as correspond and co-exist in the types of tubercular lesions which we had pointed out to us in our student days. In those days tuberculosis was taught chiefly in the pathological and post-mortem departments. The clinical histories that corresponded with those cases so often mentioned high temperatures, emaciation, hectic flush, profuse expectoration, night sweats, and cavities that *now* our minds are too prone to cling to those symptoms as belonging to all cases of tuberculosis.

But such is radically erroneous. Our early favorable cases usually present not one of these symptoms. These symptoms arise usually as the lung begins to break down and are generally indications of a late stage or of an acute process.

Truly incipient cases have "slight infiltration limited to the apex of one or both lungs, or a small part of one lobe; slight or no constitutional symptoms (including particularly gastric or intestinal disturbance or rapid loss of weight), slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours; expectoration small in amount or absent; tubercle bacilli may be present or absent and there are no tuberculous complications."*

Another cause of delay in diagnosis is the tendency to lean upon the laboratory report, assuming that a positive sputum report is essential. Speaking at random, far less than one quarter of the cases admitted to sanatoria require a diagnostic sputum test, because the clinical history and physical signs are sufficient generally in the hands of an experienced tuberculosis practitioner to make the diagnosis.

It seems puerile at this date to reiterate that the patient's clothing should be removed to the waist during examination and that each spot should be auscultated after a forced cough followed by full inspiration and expiration.

Among the gross, more readily elicited diagnostic signs, occurring in many favorable cases but rarely in the really incipient, is a lack of expansion on the affected side. To elicit this, the patient should be exposed directly in front of a single source of bright light and asked to take a full breath while sitting or standing with hands in the lap and knees not crossed.

The excursion of the angle of the scapula and of the nipple on the affected side will be often appreciably diminished. This sign is not to be depended upon except to suggest or corroborate tuberculosis, and naturally is not as marked in early as in later stages.

Another comparatively easily elicited sign is an increase of intensity of the respiratory murmur over the affected area. A still more accurate gross sign is the more high pitched or intense whispered voice over the affected area.

The use of hypodermic tuberculine for diagnosis should not be undertaken by one who has not the ability to make a skilled physical examination.

ERRORS IN DIAGNOSIS.

The commonest errors of diagnosis are Bronchitis, Pleurisy, "Grippe," "Bleeding from the throat" and "Debility." In regard to the first (perhaps the most common) I would advise one invariably to be skeptical of the diagnosis of a benign bronchitis, and more especially, to assume that unilateral "bronchitis" is tuberculosis.

"Pleurisy" in most cases accompanies parenchymatous involvement or is an independent tuberculous process.

So-called "Grippe" frequently ushers in frank tuberculosis, and "bleeding from the throat" is so nearly invariably due to tuberculosis that the invariable first assumption should be tuberculosis. It may appear as mere specks, as a diffused pinkish discoloration of a small mass of sputum,

* *Vide:* Classification adopted by the National Association for the Study and Prevention of Tuberculosis and by the American Sanatorium Association.

as a few bright streaks in the sputum, or as a chocolate colored or blackish, mottled mixture. These small blood spittings are often a most fortunate episode in the case as they are quite apt to disturb the patient sufficiently to rouse him to see a physician.

Some of the more rare symptoms of pulmonary tuberculosis are dyspnea, mental irritability, languor and weariness. Psychasthenia often develops as tuberculosis appears. I would urge a sharp lookout for this condition, more particularly in women, so that such treatment as may be instituted will be in harmony with this condition and so that the patient's comfort will be most fully protected. The psychasthenia may take the form of fears, apprehensions, depressions, or hallucinations, and in these cases isolation and bed treatment, individualization and an harmonious environment will be very valuable.

TREATMENT.

It may be well to take a general review of events as they have occurred in the tuberculosis field (chiefly in this state), calling attention to progress and failure so that we may the more wisely deal with the problems of the future.

In 1885, Dr. Edward L. Trudeau established the Adirondack Cottage Sanitarium, thereby introducing sanatorium treatment into this country. The modern kind of tuberculosis activities in this country may be said to have begun there and then. This noble man was a worthy sponsor of a great cause.

In establishing his institution in the mountains, he adopted the theory of the beneficial effects of altitude and of inland climate in the treatment.

In February, 1891, Dr. Vincent Y. Bowditch established a sanatorium in Sharon, Mass., at a general elevation of about 300 feet, and achieved remarkable success. Influenced chiefly by this success, the State of Massachusetts elected to try the experiment of treating favorable cases of tuberculosis under its own supervision. It chose a site at an elevation of about 1200 feet in Rutland and appointed Dr. Bowditch and others to its medical staff.

This State Sanatorium, doing pioneer work, achieved such success and popularity that a country-wide policy of establishing State Sanatoria soon followed.

But after a few years of effective operation, outside words of criticism and disappointment were heard. The criticism was aimed at the incompleteness of the benefit received, or, in other words, to the tendency to relapse which some patients showed after discharge from the sanatorium, and incidentally the climate and altitude and other things took their share of criticism. The criticism accumulated and finally assumed the proportion of definite counteracting and corrective propaganda.

Home treatment, even in crowded cities, in congested quarters was enthusiastically hailed. *Day camps* were established in many large cities, regardless of altitude and climatic conditions. *Tuberculosis classes* were instituted in Boston and adopted in many large cities of other states. *Tuberculosis dispensaries* took on new expansions. Even the State Tuberculosis Commission, then reorganized, showed the existing discontent at sanatorium results as realized at Rutland by using considerable pressure to utilize the then-building three new state institutions for the reception and treatment of favorable cases on a par with Rutland, though these institutions had been located with slight regard to climatic advantages, but chiefly so that they might be near populous districts.

At about the same time, to one who had followed the trend of the annual meetings of the National Association for Study and Prevention of Tuberculosis from the outset, a lull of enthusiasm became apparent in its meetings.

All these conditions were tending to establish a real belief that sanatorium treatment was not as valuable as it had been claimed by the originators and that non-institutional treatment was as good, and that all climates and all kinds of climate were equally valuable in curing tuberculosis. This belief prevailed for several years. Since then, however, class treatment has been largely abandoned, day camps have fallen from grace somewhat and some, who had enthusiastically endorsed home treatment, have since become equally enthusiastic over the great curative power of the bracing, clear air of hills and mountains.

These facts are significant and can all be explained readily. The corrective propaganda were tried out and found less capable of producing results than sanatoria had been.

It is today to be noticed wherever experienced tuberculosis workers of all kinds gather (social workers, district nurses, dispensary physicians, city physicians, clinicians and sanatorium workers) that there is a prevailing general conviction *that patients should first go to a sanatorium* because of the better chance of cure there obtained and because of the more thorough health education there received. In other words, *good sanatoria were never so popular as today.* Stated in other terms, it is now recognized quite generally among tuberculosis workers, after impartial trial of various agencies, that sanatoria are fixtures as long as tuberculosis exists, and that in the great preponderating majority of cases, those patients are far more fortunate who can have the advantages, during a part of their treatment at least, of a good sanatorium. Before long the same conviction may be expected to take possession of the profession at large, and coincidently, I venture to say, will the tuberculosis death-rate show a more rapid decline.

It is not easy to explain convincingly the reasons why institutional treatment produces better results than home treatment, yet an analysis of the individuality of the disease will reveal some peculiarities which certainly would suggest the

probability that institutional treatment would be preferable.

1. For instance, the disease is *subtle* and *insidious and* is not accompanied with marked bodily distress. Hence the patient is apt to overlook a backsliding in his health until it has become marked and serious, but if he is in an institution he is under the frequent observation of nurses or physicians who are trained to detect slight variations of symptoms.

2. *Regularity of routine* seems to be a valuable element of treatment and it is quite apparent that a home can rarely be systematized to operate with the precision of an institution.

3. There is a large element of *effort* and *task* about the treatment when properly pursued. It is apparent that with the family at hand, the patient may be often excused from the effort when an institution would insist upon it.

4. At home the patient is bound to be brought in contact with *petty cares* and *annoyances* of which he would probably be ignorant if he were away.

5. The treatment is a *tedious, long continued* process, during which the fund of moral support, wise counsel and patience of a family may give out.

6. The treatment is *progressive* and requires frequent alterations of orders by the physician, but if at home the patient, when feeling well, is apt to consider a visit from the physician as an unnecessary expense.

7. *Education about the disease* by observation of other patients is to be had in an institution and not when taking treatment alone.

These are some of the reasons of preference for sanatoria. In a small percentage of cases, temperament is such that institutional treatment must not be thought of.

Sanatoria, then, stand as the chief means of treatment of the disease, and yet it is all too apparent that sanatoria can never eradicate the disease alone. All the combined methods of attack upon the disease, including better housing, cleaner cities, public parks, pure water supply, open air schools, out-door sleeping, shortened hours of labor, cleaner milk, hospitals for incurables, fumigation of apartments, prohibition of spitting, etc., etc., have made a strong impression, but apparently the greater part of the task still remains undone.

To return to the subject of the sanatorium patient, I would reiterate that the extent of control of his disease on his discharge (with consent) is limited to an *arrest* but not a cure. The sanatorium at best has subdued, but not eradicated his disease and has educated him into better methods of living, but the purely sanatorium duty stops there. What happens to him after discharge cannot rightly be the responsibility of the sanatorium.

In many cases the disease relapses after discharge. *The after-care of the consumptive is the weakest point in our whole scheme today* and little has been accomplished to improve this defect.

Shall the patients who came from unsanitary homes and whose previous work is now unsuitable for them, be sent to work colonies, supported by the state, for physical training to fit them for the requirements of the general labor market and for manual training in more healthful occupations?

Until some comprehensive solution of the after-care problem is made, it is well to keep in mind that arrested and non-arrested cases are returning into our midst with need for wise medical counsel.

The treatment of a curable case of tuberculosis may be divided into two distinct stages:

In the first we must create and maintain such a form of living by the patient as will build up a controlling resistance to the tubercular toxine and establish a normal degree of nourishment, by means of such a readjustment of his habits and of the actions of the leading organs of his body as will maintain the toxine resistance and normal nourishment even under moderate activity. When this is accomplished the disease is arrested. In practice this will require an aggressive, alert, patient, optimistic resourceful, skilful action on the physician's part. This may well be called the sanatorium phase of the treatment and is well comprehended and indicated in the word "*sanatorium,*" which comes from the verb "*sanare,*" to heal.

The second stage of treatment is quite different. It is planned on the principle to hold ground already gained until cure is established or arrives. It is less aggressive than the first phase and is more accurately a problem of *prophylaxis.* Its chief aim is not to improve on what has already been accomplished in improved habits and bodily functions, but to prevent the reappearance and re-establishment of any form of bodily overtax.

The first stage will require of the physician ability to note and interpret the changing physical signs and symptoms, and a knowledge of the influence of rest and exercise upon the pathological process, a knowledge of foods and of the action of air upon the body.

The second stage will more particularly require a knowledge of the normal in housing, hours of work, sanitary conditions and food, and incidentally will reveal the fact that society, though partly responsible for the patient's illness, yet adheres to such prejudices against him that he faces severe restrictions and finds few avenues for the use of his talents.

The one who assists in this prophylaxis of tuberculosis must do his part then in social uplift work, but so intertwined is tuberculosis with all the great human problems, of the individual and of the community, that changes of great magnitude, entailing colossal outlay of money and effort, must doubtless be wrought before this scourge shall be cast off.

Consider alone the outlay necessary to bring housing conditions up to a healthful point in our cities. More than almost any other disease tuberculosis possesses social phases, and the physician who comes into even occasional contact with it may well pause to consider whether in his handling of a case the obligations to society are properly considered. We have the opportunities and abilities to see clearly the basic causes of this far-reaching scourge. Our position has enabled us to trace out the human faults and deficiencies that produce the thing. No other profession, no other group of people, knows so well when humanity begins, by its omissions and commissions, to endanger itself with this trouble. Ours being the first eyes to see the impending misfortune, so also is ours the duty to warn early against the dangers,—to counsel in private and public the truths we know, to teach, to preach, to educate,—to create, in short, public enlightenment.

Let the profession realize that the pioneer tuberculosis physicians have known well what they needed in state institutions to make success, but that they must wait for the consent of legislative bodies. Let us realize that slow progress can often be traced to bad politics and we will see clearly what the remedy is.

Help to disseminate the information that able physicians often shun public institutions because of the dangers and futile obstacles therein.

Able hospital superintendents deserve cooperation and support from the profession. The percentage of recoveries being dependent greatly upon a complete authority and control of patients, it follows that coöperation by the profession with the hospital staff will assist to increase recoveries by establishing confidence and cooperation between patients and staff. We should attempt to aid the staff to have untrammeled authority and power.

Let us have a policy in regard to our city and county tuberculosis hospitals. These are chiefly isolation places, and the management will require chiefly palliative measures until the end. But some curable cases may enter here, and for them an aggressive, particular routine must be instituted or they may fail to recover.

MORTALITY AFTER PROSTATECTOMY, BASED ON A STUDY OF 229 FATAL RESULTS.*

By Benjamin Tenney, M.D., Boston,
and
Henry M. Chase, M.D., Boston.

The observations which this paper presents are obtained from the consideration of 106 fatal cases following prostatectomy contributed for our study by members of the American Urological Society, from other cases already in print and from a paper on Mortality after Prostatectomy published by us in 1906.

As many of the reports cover cases dying before our modern methods of investigation became common and others have been made up from incomplete records, the totals of the different observations vary. It may be regretted that this paper does not cover the percentage of recoveries as well. Possibly this may be taken up at another time, but this paper will be confined to a study of fatal cases and their relation to the conditions which existed before operation.

We have discarded the reports on cases operated under fifty years of age as likely to be complicated by acute infection of the urinary tract and by cancer. One hundred and sixty cases arranged by decades with the cause of death appear in Table I.

Table I

	50–59	60–69	70–79	80–89	90	Totals	Cases from Previous Paper	Totals	
Uremia	7	15	16	3		41	25	66	30%
Sepsis	1	9	8	1		19	6	25	11%
Hemorrhage	3	10	13	4		30	11	50	22%
Shock	1	3	5			9			
Embolism	3	12	7	2		24	3	27	12%
Pulmonary	1	3	5	4	1	14	8	22	10%
Cardiac	1	4	6	1		12	9	21	9%
General Debility		3	2	1		6	1	7	3%
Acidosis		1	1			2	0	2	1%
Accident	1	2				3	6	9	4%

It appears that there were more deaths from uremia than from any other one cause. We have listed the deaths from sepsis next because some deaths assigned to this cause occurred so early as to suggest the influence of renal inadequacy in producing so early fatal results. Legueu goes even further and in a recent paper says: "Minute investigation of the conditions under which prostatic patients die compels us to attach more and more importance to renal insufficiency. Death from uremia fully explains the accidents currently ascribed to embolism or pulmonary complications which in reality only play a secondary part. It would seem that alongside and vastly more than the liver, lung and heart it is the kidneys which most frequently kill our patients after operation and which furnish the underlying cause of many of the pathological troubles in those who recover."

The next most frequent cause of death is hemorrhage and we have listed shock after this because the two are so often associated and because some patients who were said to have died of shock lived for twenty-four hours or more before the end came.

It is our opinion that a reduction in mortality from these two causes is possible and that a dis-

* Read at the annual meeting of the American Urological Association in Philadelphia, 1914.

tinct improvement over the results of ten years ago is already here.

The large number of deaths between sixty and eighty corresponds with the larger number of patients who were operated in these decades. Our previous paper, based on 816 operations by many different surgeons, showed that 80% of all prostatectomies were done on patients in these two decades. It may be interesting to reproduce the table from that paper showing the mortality in the different decades.

= TABLE II =

	50-59	60-69	70-79	80-89	90
Number of Patients	120	422	240	24	2
Percentage of Fatal Operations	5.8%	9.5%	15%	33%	50%

This table was made up from ninety-one fatal results in the work of many different operators with a general mortality of ten per cent.

DURATION OF OBSTRUCTION.

There are 100 cases in which the duration of obstruction can be compared with the cause of death.

Table III

	Duration of obstruction up to one year	One to three years	Over Three years.
Uremia	9	5	15
Sepsis	5	1	4
Hemorrhage	5	7	13-
Shock			
Embolism	5	2	7
Pulmonary	0	6	3
Cardiac	1	1	6
General Debility	0	1	2
Accident	0	2	0
Total	25	25	50

The larger proportion of deaths from uremia, sepsis and embolism in patients operated within a year of obstruction, suggests that patients with impaired renal and circulatory apparatus are more likely to seek help early than those who have no disabilities outside of the bladder.

PREPARATION UNDER HOSPITAL CONDITIONS.

There are 101 cases in which the preparation under hospital conditions can be compared with the cause of death.

TABLE IV

PREPARATION

Cause of Death	Two days or less 44 cases	3-7 Days 30 cases	8-14 Days 20 cases	Longer 10 cases
Uremia	16 = 37%	9 = 30%	5 = 25%	3=
Sepsis	6 = 14%		3 = 15%	1
Hemorrhage	7 = 16%	8 = 27%	4 = 20%	1
Shock		1 = 3%		
Embolism	9 = 20%	3 = 10%	5 = 25%	1
Pulmonary	1	3 = 10%	2	
Cardiac	3 =	3 = 10%	1	4
General Debility	1			
Acidosis				
Accident	1			

The diminishing percentage of deaths from uremia, as we compare the immediate operations with those delayed is certainly suggestive of the desirability of preparation before operation.

Along this same line it appears in Dr. Hugh H. Young's monograph of 1906 that while some few of his patients were operated within a day or two of admission, there was an average delay of more than eighteen days. You will remember that he reported seven deaths in a total of one hundred and forty-five cases.

PRELIMINARY DRAINAGE.

Thirty-six of these fatal cases were drained by catheter and ten by cystotomy before the prostatectomy. Drainage varied from one to ninety days. Fifteen were drained less than one week.

= TABLE V =

Preliminary Drainage

	Catheter Drainage Cases	Cystotomy
Uremia	10	5
Sepsis	3	1
Hemorrhage	8	1
Shock	2	
Embolism	7	1
Pulmonary	4	1
Cardiac	1	1
General Debility		
Acidosis		
Accident	1	

These cases show nothing except that the drainage used was not adequate to protect them from the usual proportion of deaths from uremia, hemorrhage and embolism. It is a question whether drainage for less than a week makes any material difference in the condition of the bladder and kidneys.

If we are to drain before operation we should do it for a certain effect rather than for a certain number of days. If there is any reason for using drainage in preparation of patients that reason should be removed before drainage is given up. The replies to our question are too few to show anything as to the comparative value of long and short preliminary drainage.

FUNCTIONAL TESTS.

The results of functional tests are reported in twenty-six fatalities.

= TABLE VI =

	Cases with Functional Tests	General Percentage
Uremia	19%	30%
Shock and Hemorrhage	19%	22%
Embolism	23%	12%
Sepsis	4%	11%

The functional tests reported are phenolsulphonephthalein and urea percentage, the latter in two cases only.

We regret that the number of fatal cases in which some adequate test of renal function was

made is so small as to be no test of the value of any of these recent methods. It does appear, however, that the percentage of deaths from uremia and sepsis is smaller among cases tested than among the general run of cases. We believe that the rapidity with which the phenolsulphonephthalein appears in the urine is of great value in estimating the progress made by a patient during his days of preparation. The new ferment which makes the estimation of urea in the blood and urine comparatively easy will doubtless bring the "uremic constant" into frequent use on this side of the ocean. No report of its use has come among these cases.

The hemoglobin test is reported in eighteen cases only. Four having hemoglobin of 80% or better died of hemorrhage; six with hemoglobin, between 70% and 80%, of uremia; four with hemoglobin of 80% or better died of embolism.

The blood pressure is given in thirty-one cases. Of those with pressure of 200 or over two died of uremia, one of hemorrhage and one of sepsis. Of those with pressure of 140 or below three died of hemorrhage, one of embolism and one of cardiac disease.

The presence of edema is mentioned in only four cases.

In nearly all the cases dying of hemorrhage the mental condition is given as "Good" or "Fair." In the cases dying of uremia the mental condition is given as "Good" or "Impaired."

The effect of "clean bladder" in twenty-six cases is not apparent, one case dying of sepsis which is not far from the general proportion.

ANESTHESIA.

The anesthesia is reported in 106 cases.

Table VII

= Anaesthesia =

	Ether	Spinal	Nitrous Oxide	Chloroform	Local	Gas Ether Chloroform
Uremia	15	6	4	6	2	
Sepsis	4	1				
Hemorrhage	14	1				1
Shock	5					
Embolism	17	1			1	
Pulmonary	5	1	4		1	
Cardiac	3	2	1	1		
General Debility	2	2	1	1		
Acidosis			1			
Accident	2					

The proportion of deaths from uremia under chloroform and spinal anesthesia is larger than with the other anesthetics which may or may not be due to using these in the worst cases. Certainly neither anesthetic gives perfect security against death from this cause.

The causes of death as related to the type of operation appear in the following table.

Eleven fatalities following the two stage suprapubic operation, and seventeen following the transcapsular perineal operation are included in the above tables as both show the usual causes of death and do not materially alter the above figures. If we may regard the deaths from uremia, sepsis, shock and hemorrhage as being more likely preventable than those from other causes, it is worth noting that 48% of the deaths following the suprapubic route were from these causes, which may be compared with 72% in the perineal fatalities.

TABLE VIII

	Suprapubic	Perineal
Uremia	18 = 22%	19 = 31%
Sepsis	4 = 5%	8 = 13%
Hemorrhage and Shock	16 = 21%	17 = 28%
Embolism	15 = 20%	7 = 11%
Pulmonary	9 = 12%	6 = 10%
Cardiac	8 = 10%	2 = 3%
General Debility	4 = 5%	
Acidosis		1
Accident	2	

GENERAL CONSIDERATIONS.

The three cases dying of accident were one from embolism following air distention of the bladder, one of sudden death with ether anesthesia while the patient was in the Trendelenburg position, and one from distention of the abdominal cavity by irrigating fluid used after the operation.

Under the heading of general debility we have included one case said to have died from acute dilation of stomach.

COMMENTS.

"I am satisfied that air absorbed through the bladder walls or through a prostatic lesion was the cause of this man's death. I will never use air distention again."

"It is my opinion that the pressure of the perineal drainage tube on the purulent open vein field of the prostatic urethra forced the pus with blood clot into the veins on getting the patient out of bed, and this was followed by an embolic pneumonia and death."

"This patient was operated in a town nearby. I left the day after operation. I have since made it a rule never to operate away from home save in emergency."

"In talking with the various men doing this kind of work, I find that some insist that they will never operate outside of the hospital. I have seen cases in farm houses where something had to be done for relief immediately and where the suggestion of removal would not be listened to. I question very much whether some one will not have to do certain cases outside the hospitals."

"It is to be noted that I have never lost a private patient. All my deaths have occurred in hospital cases in which I was unable to secure the sort of pre-and-post operative treatment upon which I cannot but think so much depends in the question of death or recovery."

SUMMARY.

The greatest danger in the operation of prostatectomy is death from uremia or from condi-

tions closely associated with it. After examining a patient we should be able to say that he is a good, fair, or poor risk with reference to this condition. If he is not put in the first class, we should try to put him there before operation or at least get him as near there as possible. Three fatalities from uremia reported to us in patients who had been carefully treated for more than two months, show that we cannot always succeed, but the percentage of deaths from uremia among the cases operated within two days was 37%, while the percentage of deaths from the same cause among patients who were observed long enough to have functional tests made was 19%.

The second great danger in this operation is death from hemorrhage and shock. Is it possible that in our desire to avoid shock by doing a rapid operation, we have sometimes produced shock and hemorrhage by doing a needlessly rough operation? There are reasons in the reports sent us for thinking that this may have had some influence. It is fair to say that a patient whose hemorrhage has been thoroughly controlled seldom starts bleeding again unless the gauze or other means of control is removed too soon. Possibly some operators have been disappointed at nature's failure to stop a leaking vessel which they had failed to close before the patient left the table.

The third serious fatality is embolism, which may also be the cause for some pulmonary complications.

How can we avoid at least a portion of this risk?

Blood vessels are necessarily torn and left untied. The wound is in an infected region and constantly bathed in a septic fluid. A larger raw area is left exposed to this contamination than in almost any other operation. Constant irrigation does not prevent embolism. It occurs when perineal, urethral and suprapubic drainage tubes are used and after both operations. Is it possible that our well meant drains are responsible for some of these emboli as suggested by Dr. Barnett?

Suprapubic tubes long enough to rest in the prostatic cavity and perineal drains reaching the same distance are well placed to disturb the clots in the surrounding veins as the patient moves about. Is there any need of tubes after either operation? There will be no back pressure of urine with a good sized opening in the bladder and we would welcome an early closure of the incision we make, provided the patient does not suffer thereby.

The deaths under the heading of Cardiac and General Debility are many of them uncertain. Some with autopsy would have been called uremic and some embolic. Some apparently represent the general giving out of the machine after the accident of prostatectomy and some a myocarditis.

It is not yet possible to say what the mortality of the operation should be because operators have such varied methods in their selection of cases.

A surgeon who believes that every old man suffering from prostatic obstruction is entitled to a chance of operative cure will have a higher mortality than the surgeon who refuses the desperate cases.

One skilful operator says privately that by selecting his cases he has done over ninety prostatectomies with one fatal result, and in contrast there is a mortality in some excellent hospitals of 20% or more. It is certain that the mortality rate is lower than it was ten years ago and a large credit is due Drs. Rowntree and Geraughty's study of color elimination in its relation to renal competency, for the improvement.

Before this work appeared many of us knew the wisdom of preliminary drainage but now we have a measure of the time necessary for this. Until some better method is made applicable, no prostatectomy should be done without testing the capacity of the kidneys for color elimination, using some chemical at least as reliable as phenolsulphonephthalein. By this intelligent delay many cases can be transferred from the desperate to the reasonably safe class of risks and those truly inoperable can obtain some measure of relief from their misery.

A STUDY OF THE EFFICIENCY OF MIXED TOXINS (COLEY) IN INOPERABLE SARCOMA. A CRITICAL ANALYSIS OF 134 MICROSCOPICALLY PROVEN CASES.

BY TORR WAGNER HARMER, M.D., BOSTON,

Assistant in Anatomy, Harvard Medical School; Junior Assistant Surgeon, Children's Hospital; Assistant in Surgery, Massachusetts General Hospital.

(*Concluded from page 416.*)

CASE REPORTS.

BONE (Not Giant Cell).

CASE 86. (Case No. 41. and *Annals of Surgery*, 1913, vol. lviii.) Periosteal round cell sarcoma of femur with multiple metastases. A. G., 18, male. An extensive growth involving lower two-thirds of shaft of femur proved on microscopical examination to be small round cell sarcoma. Amputation at hip joint refused. After prolonged x-ray treatment, extensive metastases developed in pectoral and ilio-lumbar regions, involving ilium. Pectoral mass partially excised.

Pathological report. Round cell sarcoma. Toxin treatment instituted. In four weeks ilio-lumbar growth became necrotic and was drained. No trace of recurrence 10½ years later. Subsequently there developed epithelioma at site of x-ray dermatitis on chest and malignant tumors (epithelioma and sarcoma) at sight of x-ray dermatitis on thigh. The latter grew rapidly. Amputation was refused. Lung

metastases developed and the patient died. Recorded in Group C.

CASE 87 Personal case. Referred by Dr. Conant. Chondro-sarcoma of tibia with metastases. F. McH., an Irish stableman of 26.

Oct. 22, 1912. Gives following history. One and a half years ago growth appeared in right shin, increased to size of grape fruit, and was excised. It recurred within nine weeks, since which time it has been slowly and painlessly growing. Four days ago hemoptysis with pain in right chest. There is a slight dulness at right base with diminished respiration and tender area in posterior axillary line. A large firm mass involving whole leg just below knee, size of child's head, with ulcerated area about four inches in diameter. Markedly enlarged glands in groin.

Oct. 28. Dr. Conant amputated leg at mid-thigh under spinal anesthesia to rid patient of foul mass and prevent hemorrhage.

Pathological report. (1210-142) Dr. Whitney. Chondro-sarcoma. A lower extremity showing a tumor at calf with ulcerated surface. Section shows it infiltrated with muscle and fat, having a reddish-brown surface which in places was bony. Further section shows periosteum of tibia eroded by tumor growth. Section of tibia shows yellow marrow with firm cavity. Fibula not involved. Knee joint free. Enlarged lymph nodes from groin. Microscopical examination shows irregular area of hyaline cartilage, in places, however, with very abundant cells but without any definite type of structure.

Treatment with mixed toxins started three weeks later and continued 3½ months. Maximum dose, 14 minims. Injections every two or three days. Reactions marked. Shortly after treatment started recurrence appeared on anterior surface of stump. This diminished in size but for last month unaffected by toxins. During period of diminution of recurrence there was no cough or pain in chest but three months after starting toxins patient had attack of chest pain with hemoptysis and from this time until treatment discontinued (March 6, 1913) patient steadily declined and recurrence on stump steadily progressed. Recorded in Group B.

CASE 88. (*Annals of Surgery,* Nov., 1914, p. 559.) Inoperable mixed cell sarcoma of clavicle and breast. R. B., male. Mass of two years' duration occupying whole left pectoral and axillary regions. Markedly protuberant and of variable consistency. Just above clavicle growth about size of hen's egg. Toxin treatment for two months with diminution in size and marked softening. Incision for drainage. Soon after toxins were discontinued the growth became rapid. Radium of no avail. Death. Recorded in Group B.

CASE 89. Personal case. Referred by Dr. Scudder. Small round cell sarcoma of tibia. Recurrent. M. B., a school girl of 15. House No. 180922.

Feb. 7, 1912. Three months ago fell wrenching but not striking right knee. Pain in knee persisted and in three weeks a swelling was noted just below the joint, motion became limited, and for past month has been confined to bed. Examination shows diffuse enlargement of right knee, slightly tender, not inflamed, no fluid in joint. X-ray shows typical periosteal sarcoma.

Feb. 10. Amputation at mid-thigh by Dr. Scudder.

Pathological report at time of operation. Small round cell sarcoma (Dr. Whitney).

Subsequent pathological report (122-42.) A leg amputated at thigh. Section in popliteal space shows a dense white tumor size of hen's egg grating under the knife. Microscopical examination of growth shows it to be composed of round cells with a rather homogeneous intercellular substance, in places infiltrated with lime salts, but nowhere with any true bone. Osteoid-sarcoma.

Nine days later toxin treatment started and continued every second or third day for 25 days. Maximum dose, 3 minims. Reactions good. Toxins then refused. Four months later (July 25) seen with recurrence in the stump, a deep mass about 1 by 1½ inches, firm and fixed to deep tissues. X-ray shows periosteal sarcoma.

Toxin treatment resumed and continued one month. Injections every other day into tumor. Reactions sharp. Maximum dose, 16 minims. Although patient was having good reactions the growth was steadily increasing in size and the patient's general condition becoming much poorer. Died three months later (Nov. 18, 1912) of metastatic pneumonia and pleurisy. Recorded in Group A.

CASE 90 Personal case. Referred by Dr. Channing Simmons. Multiple periosteal sarcomata. L. E. S., a Portuguese barber of 19. House records W. S. vol. 637, p. 49 and vol. 671, p. 221.

July 15, 1909. Six months ago noted pain in left leg followed by "thickening of the bone." No known injury. Growth steady with very little pain. Now a hard non-tender fusiform swelling of mid-third of tibia about three times former size. July 16, amputation just below mid-thigh by Dr. Lothrop.

Pathological report. (97-45.) Periosteal sarcoma. Dr. F. C. Kidner. Left leg amputated just above the knee. Symmetrically involving the mid-third of the tibia is a hard, fusiform osteoid tumor rather cellular in appearance. The tumor partially involves the muscle. On section of the bone it is apparent that the growth is invading the medullary cavity. The tissue of the tumor is grayish in color. Microscopical examination shows masses of osteoid tissue with very small amounts of lime deposit and irregular and atypical cells. In the meshes of this badly formed bone lie masses of ovoid irregular cells, whose protoplasm shows many fibrillae extending from cell to cell. The cells are rather large and nuclei dense.

July 23, 1910. Patient reports with history of being well until six months ago when noticed pain and swelling in left shoulder. When shoulder had attained twice normal size pain ceased. For one week considerable pain in right shoulder. This he attributes to use of crutches. There is a fusiform symmetrical enlargement at left shoulder, size of very large grape fruit, extending from deltoid insertion up over acromion and coracoid. Smaller similar mass at inner end of right clavicle.

Treatment with mixed toxins started and continued three months. Injections every second or third day with good reactions. Patient's condition and size of masses about the same. Consistency of masses somewhat softer. Patient then returned to local physician, Dr. E. W. Smith, then of Provincetown, Mass., now of Boston, who continued toxins under my direction for six weeks. Maximum dose, 14 minims. Tumors still increasing in size when toxins omitted.

A letter from Dr. Smith Nov. 25, 1913 states that he believed the condition unaffected by the toxins. The left clavicle became involved and grew with the tumor of the right clavicle to such size that the patient was unable to turn his head. The growth of the humerus attained enormous proportions so that a specially constructed casket was necessary. He died June 12, 1911. Recorded in Group A.

CASE 91 Personal case. Referred by Dr. W. J. Mixter. Fibro-sarcoma of spine.

C. J. D., clerk, 43. May 24, 1913. Gives following history. For a year feeling of strain of back. Diagnosed as lumbago. Two months later drawing pain in front of left thigh relieved by lying down. One month ago numbness and severe pain of left leg which has persisted. Upper lumbar region shows stiffness and pain on motion; tenderness to pressure. Slight left scoliosis. No mass. Left knee jerk, absent. Reflexes and sensation otherwise normal.

May 25, 1913. Operation by Dr. Mixter. Laminectomy of first and second lumbar vertebrae, exposed a tough, infiltrating growth involving bone. Impossible to remove wholly.

Pathological report. (135-117) Dr. W. F. Whitney. Fibro-sarcoma with giant cells. A few rather firm, rather grayish fragments with muscle and a little tissue. Microscopical examination shows growth of fibrous tissue, in places quite cellular with rather hyaline fibers and here and there areas of scattered giant cells.

Treatment with toxins started in 12 days and continued for 7½ weeks, injections every other day. Maximum dose, 24 minims. Reaction after first fortnight marked, but mass became evident at operation scar and grew rapidly with development of complete paralysis of both legs. Treatment continued until day before death. Recorded in Group A.

CASE 92. Personal case. Referred by Dr. C. L. Scudder. Mixed cell sarcoma of lower jaw. Mrs. W., 32.

For 4½ weeks swelling of jaw accompanied by neuralgia of right side of face and beneath eye. Pain not great. Examination shows a swelling size of apple on outer side of right jaw, extending into mouth, with pus exuding from around teeth in this region. X-ray shows osteomyelitis. Mass is firm in places and in others somewhat fluctuant. Evacuation through incision in mouth. Tissue removed; evidently necrotic malignant disease.

Pathological Report. Sarcoma.

Sept. 9, 1914. Dr. Scudder performed a resection of one-half of lower jaw with removal of mass in mouth. Cervical glands not enlarged. Mouth mucosa sutured tight. Small drain in neck. Patient made a satisfactory convalescence.

Pathological Report (Dr. H. F. Hartwell). Osteoid sarcoma. The tumor of the jaw received on Sept. 9, consisted of a round, irregular mass about the size of a tennis ball. It was firmly attached to a portion of the ramus. On side was a foul necrotic mucous surface. A portion of the bone which was enveloped by the tumor was atrophic and friable. Section of tumor on the surface away from the mucous membrane showed a grayish-white firm substance. Microscopical examination of a number of sections showed a richly cellular tumor made up of large undifferentiated round cells with considerable eosin staining intracellular substance. The nuclei were of large size and showed numerous mitotic figures and occasionally cells were seen containing several nuclei.

Nov. 4 patient seen with Dr. Scudder with recurrence size of crab-apple, firm, bluish-red, extending into floor of mouth. Mixed toxin treatment started following day and continued until Dec. 9 (5 weeks). Patient exhibited but little tolerance for toxins. Maximum dose 4 minims. Reactions always severe. Toxins without effect. Mass grew steadily in size, became quite soft and was early drained through incision in neck. X-ray treatment started. Despite massive doses every second or third day patient became progressively weaker and died Jan. 16, 1915. Recorded in Group A.

CASE 93. Personal Case. Referred by Dr. C. A. Porter. Spindle cell sarcoma of clavicle. M. A., Jewish printer of 20. House No. 171355.

Oct. 12, 1910. Admitted with history of small lump noted 5 years previously above right clavicle, which has grown steadily in size. Rather pale youth with tumor size of small orange above the sternal half of right clavicle and apparently slightly attached to same. The mass is not tender, not adherent to skin, and of firm consistency.

Aug. 13, Dr. Porter shelled out a tumor which was adherent to clavicle. Anterior half of sternal end of clavicle chiselled off.

Pathological Report. (108-56) Dr. F. C. Kidner. Spindle cell sarcoma.

Feb. 9, 1911. Readmitted with tumor size of a walnut adherent to mid-clavicle. Excision of clavicle refused.

June 9, 1911. Readmitted. Mass now size of peach. June 10, Dr. Porter did a partial excision.

Pathological Report. (116-45) Dr. H. F. Hartwell. Fibro-sarcoma.

Nov. 14, 1911. Readmitted. Has had x-ray treatment for over three months. Despite this the tumor is now size of a large grapefruit, involving clavicle, tense, red and ulcerated. Nov. 18, interscapulothoracic amputation by Dr. Porter. The entire mass could not be removed. The apex of the lung already involved.

Dec. 10. Mixed toxin treatment started with injections into a mass about the size of an egg. Continued for one month without apparent effect. Maximum dose, 5 minims. Reactions moderate. Patient died April, 1912. Recorded in Group A.

CASE 94. Personal Case. Referred by Dr. Porter. Giant cell sarcoma of spine (recurrent). A. J. M., boy of 16. House Records, orthopedic, vol. xx, pp. 67; W. S. vol. 761, p. 161.

June 10, 1912. Admitted to hospital with following story: Fell three months ago, striking spine. Pain and tenderness have persisted in this region ever since and for two weeks numbness over external and anterior surface of right thigh with absolute loss of sensation.

Patient walks with slight instability, complaining of weakness of right knee, steps with great care, the slightest jar causing excruciating pain in lower dorsal region of spine, shooting up to head. Slight depression in region of tenth dorsal spine with swelling about the size of hand in posterior subcostal region. Both legs may be raised over about one-third normal arc, beyond which pain in the back and to right side of spine. Ankle clonus and Oppenheim sign on right. Area of analgesia over external as-

pect of right thigh just below trochanter. X-ray negative.

June 21, 1912. Nerve consultant (Dr. Baldwin) finds double ankle clonus and Oppenheim with disappearance of tactile and pain sense over right anterior crural distribution. Diagnosis, partial paresis of traumatic origin.

June 22, 1912. Swelling of back appeared fluctuant but aspirating needle revealed nothing.

June 26, 1912. Operation. Dr. Porter. Ether. Bluish colored, rather tense, fluctuant mass exposed beneath muscles of back; incised with escape of quantity of dirty liquid which was found to be encapsulated in rather definite sac with thickened broken-down tissue in walls. Vertebrae involved. Curetted out and during operation Dr. Wright reported giant cell sarcoma. Transverse process removed, bone curetted, capsule trimmed as much as possible. Bleeding profuse. Cavity tightly packed. Patient put to bed in very poor condition but recuperated rapidly.

Pathological Report (126-126), Dr. Hartwell. Giant cell sarcoma. "Specimen consists of soft irregular pieces of tissue. Microscopical examination shows richly cellular tumor composed of spindle cells with numerous giant cells. The cells are very atypical and their richness varies in different areas of the tumor, some places being quite fibrous. There are scattered necrotic areas in the tumor tissue."

Treatment with mixed toxins started at once and continued until Jan. 29, 1913, seven months. Injections every other day and then twice a week. Maximum dose, 18 minims. Reactions usually severe. Seen 108 times. Injected 62 times. Early injections into belly, legs, and arms, and later into recurrence, which rapidly developed. Recurrence became in length 5½ inches, in breadth 3½ inches, in elevation 2 inches, with paresis of right leg. Despite violent reactions treatment persisted in. Tumor began sloughing in several areas and in January, 1913, no evidence of any mass or disturbance of sensation of limbs.

Since that time patient has reported every week or fortnight; has steadily gained in strength and weight; no evidence of recurrence by examination or x-rays.

April 27, 1914. Shown before the International Society of Surgery at Massachusetts General Hospital through the courtesy of Dr. Porter.

In June, 1914, a routine x-ray examination discovered a small mass apparently arising from lateral surface of spinous process of third lumbar vertebra. This mass was not evident by inspection or palpation and was producing no symptoms. The boy was apparently in excellent health. At operation Dr. Porter removed a circumscribed bone cyst.

Pathological Report. Bone cyst, no evidence of malignancy. This was a benign cyst, an inflammatory reaction. It still seems fair to claim that the toxins averted invalidism with paralysis (perhaps lingering death) from the early rapidly growing recurrence.

Patient examined every two weeks. Last seen Feb. 1, 1915 (2 years since toxins discontinued). Well developed and nourished. Good color. No subjective or objective evidence of recurrence. Scars soft and not adherent to structures beneath. Has worked many months as chauffeur. Recorded in Group F.

Case 95. (Case No. 44, Personal communication, and *Annals of Surgery*, 1913, pp. 772-774). Giant cell sarcoma of spine with paralysis of bladder, rectum and legs. 21, male. Swelling of lower back treated as Pott's disease with plaster case for several months. Patient grew steadily worse. The mass had become very protuberant, occupying the entire region from the 8th dorsal to 3d lumbar vertebrae and extending 3 inches either side of vertebral line. Toxin treatment for 3 months with intervals of rest. Maximum dose, 3 minims. Reactions marked. Progressive diminution in size of tumor with restoration of motor and sensory functions. Entirely well 7 or 8 months later. Subsequently married and has two children. Working regularly. Well without evidence of recurrence 12 years after toxins discontinued. Recorded in Group F.

Case 96. (Table, Case No. 54.) Case of Drs. N. S. Hunting and J. J. Thomas. (B. M. and S. J., 1901, vol. cxlv, pp. 367-372.) Giant cell sarcoma of spine, involving ribs and compressing cord. 39, male. Exploratory operation revealed inoperable involvement of vertebrae.

Pathological Report. Giant cell sarcoma. Mixed toxins continued for 2 years with restoration of health. Well 5 years later, when died of acute lobar pneumonia. Recorded in Group F.

Case 97. (Table, Case No. 63.) Giant cell sarcoma of sacrum. Case of Dr. Vradenburg. A woman. Operation for tumor of sacrum but impossible to eradicate disease.

Pathological Report. Giant cell sarcoma. Toxin treatment with entire disappearance of growth. Patient well 1½ years later. Recorded in Group F.

Case 98. (Case No. 10, p. 148). Giant cell sarcoma of superior maxilla. Case of Dr. J. C. Whitley, St. Louis, Mo. E. W., female. Operation unable to eradicate disease.

Pathological Report. Giant cell sarcoma. Toxin treatment. Maximum dose, 20 minims. Injections into tumor and buttocks. Tumor disappeared. No evidence of recurrence over 2 years later. Recorded in Group F.

Case 99. (Case No. 46.) Giant cell sarcoma of superior maxilla. E. S., boy of 8. Had had 3 teeth and portion of alveolar process removed for growth of superior maxilla. Disease not eradicated.

Pathological Report. Giant cell sarcoma. Evident recurrence in about a year. Toxin treatment then started and continued 3 or 4 months. Reactions often severe. Well with no sign of recurrence 3½ years later. Recorded in Group F.

Case 100. (Case No. 28.) Giant cell osteo-sarcoma of inferior maxilla involving mouth. C. J. V. W., 17 male. A growth 4½ x2½ inches occupying entire lower portion of jaw extending back nearly to the angle on either side, and the floor of the mouth was filled nearly to the teeth level with growth. Outer portions of the growth chiselled away.

Pathological Report. (Dr. James Ewing.) "Giant cell osteo-sarcoma. It is not the ordinary encapsulated giant cell sarcoma of the jaw, or of the epulis type, but a tumor infiltrating in all directions and of rapid growth with large amount of new bone formation." Mixed toxins in two days and continued for 10 months. Injections into pectoral region and tumor. Reactions moderate. Dose 5 min-

ims. Tumor rapidly disappeared leaving no deformity. Death in 5 months from nephritis. Recorded in Group F.

CASE 101. (Case No. 25.) Recurrent giant cell sarcoma of ilium and sacrum. Mrs. X., 30. Two months after a fall a hard swelling appeared on ilium. At operation growth found originating in upper and outer portion of bone. Too extensive for radical removal.

Pathological Report. Giant cell sarcoma. Treatment with x-ray and radium for a number of months without benefit. At length confined to bed suffering great pain. Tumor involved whole outer aspect of ilium with 3 discharging siuses. Toxin treatment for 5 months. Maximum dose, 3 minims. Size diminished, tumor softened. Incision made for drainage of cavity size of two fists. Toxins resumed for 11 months. Drainage reëstablished. One year 2 months later in excellent condition without trace of recurrence. Recorded in Group F.

CASE 102. (Case No. 12, p. 149). Giant cell sarcoma of femur. For several months a mass occupying outer aspect of thigh. Exploratory operation revealed a growth arising from middle of femur. Section removed.

Pathological Report. Giant cell sarcoma. Growth very rapid. Toxin treatment started. Maximum dose, 3 minims. Reactions severe. Marked sloughing of growth. After 4 months incision and curettage of necrotic material. Repeated 9 months later.

Pathological Report. No evidence of recurrence. Bony union of fracture. Patient well 6 years later. Recorded in Group F.

CASE 103. (Case No. 24.) Giant cell sarcoma of radius. M. F., 26, female. X-ray of fractured wrist disclosed pathological process of bone. Tumor curetted out.

Pathological Report. Giant cell sarcoma. Seventeen days later no evidence of union. Amputation refused. After 6 weeks of toxin treatment bony union occurred. Patient well 5 years, 5 months later. Recorded in Group F.

CASE 104. (Case No. 39.) Giant cell sarcoma of sternum. Miss C. Enucleation of growth at junction of manubrium and second rib.

Pathological Report. Giant cell sarcoma. Toxin treatment at once, and continued several weeks. Maximum dose, 3 minims. A recurrence had developed which involved entire width of sternum 2½ inches long and elevated 1½ inches. Skin ulcerated. Metastases involving glands of both sides of the neck. Toxins resumed and continued 4 weeks with no effect despite marked reactions. Despite progressive growth and severe hemorrhages, toxins continued. Finally neck swelling disappeared and pain ceased. Tumor was gradually sloughing when patient died of nephritis. This case is regarded by Coley as giant cell sarcoma with metastases. Recorded in Group E.

CASE 105. Personal Case. Referred by Dr. F. G. Smith of Somerville, Mass. Giant cell sarcoma of thigh, invading pelvis. J. W., school boy of 14. May 10, 1913, gives following history:

Feb. 20, fell on ice in such a manner that point of skate struck anterior surface of the left thigh. Three days later a swelling appeared, which progressively increased in size. April 10, Dr. Smith excised as much as possible. Bleeding profuse.

Pathological Report (Dr. W. F. Whitney). Giant cell sarcoma.

Recurrence soon appeared and there is now present a sloughing mass the size of a cantaloupe on the anterior surface of the upper thigh, extending beneath Poupart's ligament into the false pelvis. Toxin treatment at once started and continued 7½ weeks with some disintegration of tumor at site of injection. Maximum dose, 12 minims. Dr. Smith states that during this time pulmonary and hepatic metastases undoubtedly occurred. The father states that boy had a peculiar limp long before skating accident. Died July 8, 1913. Recorded in Group B.

CASE 106. Personal Case. Referred by Dr. H. C. Low, of Boston. Giant cell sarcoma of ilium, sacrum and spine. J. A., Italian, 34. O. P. D. No. 207888. Seen March 24, 1913. Had been operated upon at another institution for growth in left sacro-iliac region.

Pathological Report. Giant cell sarcoma. There is now present a healed scar in this region slightly raised upon a mass 1½ x 1½ inches, adherent to ilium. X-ray shows flattening of body of 4th and 5th lumbar vertebrae, with pathological process in ilium and sacrum.

March 31. Mixed toxin treatment started and continued 13 weeks. Reactions often severe. Maximum dose, 16 minims. No appreciable effect. X-ray treatment for 2 weeks without benefit. Patient died Aug. 20, 1913, with ulcerated, bleeding mass size of football. Recorded in Group A.

FASCIA AND MUSCLE.

CASE 107. (Case No. 7, p. 144.) Spindle cell sarcoma of calf. Case of Dr. McArthur of Chicago. 40, female. Radical excision of tumor arising from fascia of calf.

Pathological Report. Spindle cell sarcoma. Recurrence in 7 months size of one-half an egg. Patient several months' pregnant. Toxins for 12 weeks with disappearance of tumor. No recurrence 18 years later. Recorded in Group F.

CASE 108. (Table, Case No. 90.) Recurrent spindle cell sarcoma of knee. Case of Dr. C. S. Cole, New York City. Excision of growth arising from fascia about knee and involving periosteum.

Pathological Report. Spindle cell sarcoma. Recurrence in a few months. Second excision followed by recurrence 3 inches long. Toxins for 3 years with intervals of rest. Maximum dose, 30 minims. Patient in good health 10 years later. Recorded in Group F.

CASE 109. (Table, Case No. 56.) Spindle cell sarcoma of thigh. Case of Dr. H. P. Underset, Toronto, Canada. 22, male. Treatment for 2 or 3 months with mixed toxins for spindle cell sarcoma of thigh with entire disappearance. Patient well 2 years later. Recorded in Group F.

CASE 110. (Case No. 65.) Recurrent fibro-sarcoma of buttock and thigh. Mrs. S., 30. Large recurrent tumor of left thigh, involving muscles and fascia of thigh posteriorly. Mixed toxin treatment for 3 months. Injections into tumor with marked reactions. Five years later two small, hard, movable masses at site of former tumor. Excision.

Pathological Report. Fibrous tissue; no trace of

sarcoma. Well without recurrence 20 years after treatment stopped. Recorded in Group F.

CASE 111. (Case No. 81.) Recurrent small round cell sarcoma of back. N. J., boy of 8. Tumor of scapular region developed 2 weeks after a fall, and in a month became size of orange and fluctuant. Aspirated, but promptly refilled. On account of size it was impossible to remove completely. Practically disappeared under 4 months' x-ray treatment, but 3 weeks later recurred. Then mixed toxins started with disappearance of growth. In good health without recurrence 11 years 6 months later. Recorded in Group F.

CASE 112. (Case No. 79.) Recurrent spindle cell sarcoma of arm. Mrs. H. W., 25. A mass arising from fascia of upper arm 12 x 5 x 4 cm. (pathological report, fibro-sarcoma) quickly recurred. Fifteen months later there existed a definite swelling of two-thirds of the upper arm, involving ¾ of its circumference. Mixed toxin treatment still in progress at time of report (1 year 9 months). Injections into pectoral region and tumor. Reactions severe. Growth somewhat diminished in size. Recorded in Group E.

CASE 113. (Case No. 51.) Recurrent spindle cell sarcoma of palm. Mrs. M., 18. Excision of tumor of palm half size of hickory nut, followed quickly by recurrence. This also was excised.

Pathological Report. Spindle cell sarcoma. A second recurrence developed. Mixed toxins for 3 months. Maximum dose, 20 minims, Tumor disappeared but recurred in two years, resisting further toxin treatment. Amputation of arm was followed by general metastases and death in a few months. Recorded in Group C.

CASE 114. (Case No. 52.) Six times recurrent spindle cell sarcoma of palm. A. C., 21, female. The sixth recurrence of a spindle cell sarcoma of the palm was treated for 18 months with mixed toxins. The necrotic tumor tissue was then removed. Recurrence in 14 months. Forearm was amputated followed by metastases in brain. Recorded in Group C.

CASE 115. Personal Case. Referred by Dr. E. H. Risley, of Boston. Spindle cell sarcoma of thigh. M. O., Russian, 40. O. P. D., No. 58388.

Dec. 27, 1905. For 10 years has had a tumor growing in thigh. At present extends from just below trochanter almost to knee. Solid, not adherent to skin and apparently not adherent to bone. Mass excised by Dr. Hugh Williams on following day.

Pathological Report (Dr. W. F. Whitney). Round cell cystic sarcoma.

June 1, 1908. Recurrence at original site size of crab-apple. This and two small masses size of marbles removed by Dr. F. T. Murphy from muscle bed.

Pathological Report (Dr. W. F. Whitney). Small spindle cell sarcoma.

Oct. 19, 1909. Recurrence 10 x 4 inches slightly movable on bone. No evidence of extension into abdomen. Treated with mixed toxins from this day until June, 1910 (8 months). Injections every other day at first, then twice a week. Maximum dose, 10 minims. For 3 months tumor remained practically the same size, perhaps of slightly softer consistency, then grew rapidly, breaking down into a sloughing cauliflower growth. Hemorrhages frequent.

In June the tumor was nearly twice the size of a football. Died 2 days after amputation at hip.

Pathological Report (Dr. W. F. Whitney). Small spindle cell sarcoma. Recorded in Group B.

CASE 116. Personal Case. Referred by Dr. Wm. M. Conant. Mixed cell sarcoma of thigh. W. P. S., a clerk of 42. House Nos. 186608, 186632, 186737 and 187278.

Dec. 17, 1912. For several months has had soreness in groin necessitating use of a cane for 2 or 3 months, and two canes for about a month. Pain almost constant. Patient has osteitis deformans. Left hip can be flexed to about right angle. Other motions normal. Mass on anterior aspect of thigh extending from pubes one-third way down the thigh and posteriorly to tuberosity of ischium (about 4 x 5 inches), firm, apparently encapsulated, only slightly tender. Mass size of orange removed for examination.

Pathological Report (Dr. W. F. Whitney). Large mixed cell fibro-sarcoma.

Toxin treatment started Jan. 25, 1913, and continued in hospital until Feb. 13. Injections every other day. Reactions very severe. Maximum dose, 6 minims. No change in size of growth, but consistency distinctly softer. Patient then discharged to local physician, Dr. S. E. Donovan, of New Bedford, Mass., who continued treatment under my direction until March 11, 1913 (total of 7 weeks). Injections every second or third day. Maximum dose, 12 minims. At end of this time suffering intense. Mass about 6 x 6 x 5 inches, extending within pelvis and encroaching upon bladder and rectum. Patient died April 6, 1913. Recorded in Group A.

CASE 117. Personal Case. Referred by Dr. C. L. Scudder. Spindle cell sarcoma of thigh. B. H. C., 22, male.

May 21, 1914. Two years ago began to have pain in right thigh, and a freely movable mass of firm consistency, size of a fist developed. This was removed March, 1913, in another city. A recurrence developed which was removed in 3 months. A second recurrence developed and was excised Jan. 14, 1914.

Pathological Report (Dr. H. T. Karsner). Spindle cell sarcoma. The recurrence after this operation was extremely rapid, a small tumor being already present when the patient was discharged from the hospital. Now a tumor of the posterior aspect of right thigh size of a small cantaloupe movable, not attached to bone. Skin covering tense and bluish-red. X-ray examination (Dr. W. J. Dodd) shows no evidence of involvement of bone. On the lower abdomen there is a small mass, firm, freely movable, apparently entirely within subcutaneous tissue, the size of a walnut. This mass excised.

Pathological Report (Dr. H. T. Karsner). Mass 2 x 2 x 1 cm., covered by skin. Cut surface pallid, bulging, fleshy mass with a few small points of necrosis. Fibroma.

Toxin treatment of thigh tumor started May 26, 1914, and continued for 5 days. Maximum dose, 3 minims. Reactions moderate. Discharged to local physician, Dr. J. N. Roy, of Webster, Mass., for further treatment. Dr. Roy writes: Toxins continued 4 weeks, when tumor broke. Maximum dose, 5 minims. Reactions severe. Patient died July 21, 1914, of sudden, severe hemorrhage from large vessel involved in growth. No metastases were evident. Recorded in Group A.

CASE 118. Personal case. Referred by Dr. Hugh Williams. Round cell sarcoma of thigh. E. S., factory hand, 55. O. P. D., No. 148376. Seen March 7, 1910.

On May 25, 1906, had growth of 4 years' duration on anterior aspect of left thigh removed. It was thought to be a lipoma.

July 7, 1909. Another operation in same city for tumor in same region.

Pathological Report. Round cell sarcoma, with tendency to large rather than small cells.

For the past 5 months a recurrence has been growing and extending upwards into abdomen. The mass is now roughly 8 x 6 inches and lobulated. Toxin treatment for 3 weeks without appreciable effect. Patient then lost sight of. Recorded in Group A.

SKIN AND SUBCUTANEOUS TISSUE.

CASE 119. (Case No. 1, p. 136.) Melanotic sarcoma of neck. Case of Dr. Greenwood, Leeds, England. Recurrence 2½ x 3 inches after excision of melanotic sarcoma. Eight days later mixed toxin treatment started and continued for 2 years 1 month (105 injections). Maximum dose, 15 minims. Growth disappeared in 5 months. Well 2 years after disappearance of mass. Recorded in Group F.

CASE 120. (Case No. 76.) Recurrent sarcoma of shoulder. H. B. M., 56, male. A benign tumor, which had existed for many years, began to grow rapidly and was excised.

Pathological Report. Spindle cell sarcoma. A small recurrence in 5 months. Mixed toxin treatment for several months. Patient well without evidence of recurrence 9 years later. Recorded in Group F.

CASE 121. (Case No. 61.) Three times recurrent round cell sarcoma of lip. M. S., girl of 5. Three excisions of growth of lip followed quickly by recurrence. Growth 1½ inches long when toxin treatment started. Injections near tumor. Reactions mild. Tumor became firmer and smaller. Then excised.

Pathological Report. No trace of sarcoma. Treatment continued with intervals of rest for one year. Patient well without recurrence 16 years later. Recorded in Group F.

CASE 122. Personal Case. Referred by Dr. E. H. Risley. Melanotic sarcoma of back. F. H. F., iron worker, 35.

Under treatment two years, two months; seen 224 times; injected 195 times; maximum dose 53 minims. July 14, 1911, Dr. Homans excised, in the O. P. D., a growth of five weeks' duration arising from a pigmented mole over the right scapular region.

Pathological Report (117-73). "Specimen for examination consists of a rounded tumor 3 cm. in diameter which is sessile and dark purplish red with a surrounding oval-shaped piece of skin and subcutaneous tissue, varying in width from 1 to 2 cm. Section shows the center of the tumor infiltrating the subcutaneous structures. Microscopical examination shows a richly cellular tumor containing much brownish yellow pigment. The cells appear to have an alveolar arrangement. They are fairly large and spindle shaped with rather deeply staining nuclei. The tumor seems to be surrounded by a tough layer of fibrous tissue but in places this fibrous tissue is very faint and the tumor appears to have gone beyond it. Melanotic sarcoma."

Oct. 26, 1911, Dr. Cobb excised, in the House, a recurrence to the outer side of old scar.

Pathological Report (1110-129), Dr. W. F. Whitney. "A piece of tissue from the shoulder measuring 6 x 4½ cm., in the midst of which was a coal black nodule 1½ cm. in diameter. Microscopical examination of the nodule showed large cells, many of them containing a black pigment with a little intercellular substance between and irregularly infiltrating into the periphery. Melanotic sarcoma."

I saw patient fifteen days later with recurrence in second scar 2½ x 1½ inches, and a palpable mass in the axilla the size of a pigeon's egg. Toxin treatment instituted. Within twelve days a mass the size of an English walnut had appeared in the same scar. The two masses became confluent but were entirely sloughed out in one month, leaving a soft thin scar. During this time, however, a recurrence appeared in the upper scar, which became in size 3½ x 2 x 1 inches. This whole mass was entirely sloughed out by Jan. 13, 1913. A pigmented mass appeared in the right pectoral region early in January, 1912. It ruptured in three weeks with local injections but increased in size until 3 x 2 inches. There were several erysipelatous attacks, when whole pectoral region would be red, hot, tense, and tender, with appearance of a second gland in the axilla and another in the neck. The latter became the size of a cherry, but entirely disappeared in one month. The axillary masses became the size of hen's and pigeon's eggs during these erysipelatous attacks, but within a month became decreased to size of pigeon's and sparrow's eggs and never became any larger until treatment was discontinued eleven months later, *i.e.* the upper axillary mass which was present when first seen (Nov. 10, 1911) was no larger and just as movable twenty-six months later when treatment was stopped (Jan. 28, 1914). The entire breast tumor (3 x 2 inches) sloughed out with continuous appearance of dark pigment by August, 1913, and never recurred. At this time patient was in excellent flesh with good appetite and no evidence of internal metastases. I was arranging with social service department for light employment. He then disappeared on a spree, returning in nineteen days haggard and weak. Treatment was resumed, but he never regained his former tolerance for toxins. The average dose for the last months was only 4.8 minims but the reactions were just as severe as he had experienced when taking 40 to 50 minims. New masses began to appear on abdomen, arms, breast, and back. He died February 26, 1914, with metastases in the spinal cord and abdomen. Recorded in Group D.

CASE 123. Personal Case. Referred by Dr. G. W. W. Brewster. Spindle cell sarcoma of shoulder. W. K. S., Canadian janitor of 44. House No. 185026.

Sept 18, 1912, appeared with profuse hemorrhages of tumor of right arm at insertion of deltoid. Six months ago he had scratched a mole in this region, and since then it had painlessly increased in size until now it is as large as an orange. Tumor firm, lobulated, not connected with bone, and ulcerated in several places. A number of glands size of walnut in axilla. Consensus of opinion after examination was against radical operation. Tumor mass was therefore excised with wide margin, and 4 days

later axilla entered, but growth had infiltrated walls of vessels and was obviously inoperable. A mass size of lemon removed.

Pathological Report (Dr. W. F. Whitney, 129-77). Spindle cell sarcoma.

One week later treatment with mixed toxins started and continued for 15 weeks. Injections every 2 or 3 days. Reactions very severe. Maximum dose, 16 minims. When toxins were started there was a mass over deltoid size of walnut and 2 masses in axilla about same size. During first 3 months of treatment all masses became softer and smaller; that on arm practically disappeared; those in axilla becoming about the size of beans. From this time patient troubled with much nausea and vomiting so that dose was necessarily reduced. Two weeks later mass evident in abdomen for first time. Grew rapidly. Toxins stopped. Mass apparently involved liver and either stomach or transverse colon, and within a month had extended from right flank to anterior axillary line on left and from costal margin to level of umbilicus. Recorded in Group D.

Case 124. Personal Case. Referred by Dr. Beth Vincent. A multiple melanotic sarcomata. M. J. R., 38, female. Cigar maker. Hospital Records. E. S., vol. 688, p. 127; E. S., vol. 736, p. 153; W. S., vol. 727, p. 121.

June 4, 1910, reports with history of injury to left hand 18 months previously, followed by lesion with scab of dark brown color, which has persisted and has painlessly increased in size. Discolored, ulcerated, slightly raised area 1 x 1½ inches. Excised by Dr. Brooks with wide margin. Pathological examination by Dr. F. C. Kidner showed cells, very many with mitotic figures, occurring in mass of evidently infiltrated character and with pigment, intra and extra cellular.

Sept. 27, 1911. Recurrence size of a walnut, dark bluish color, and mass in axilla size of half an orange, firm, smooth, somewhat adherent, not fluctuant or tender. Dr. Cobb made attempt to dissect axilla. Tissue melanotic and very vascular. Growth on hand excised with wide margin. Patient then received daily x-ray treatment.

Three months later mixed toxins started. In meantime patient had developed tumor of left breast size of an egg. Mass in axilla size of English walnut. Two masses above umbilicus size of marbles. The latter were excised and microscopic examination showed melanotic sarcoma. Treatment continued for two months. Maximum dose, 16 minims. Reactions severe. Injections were given in various masses, either singly or collectively. Practically no change for 3 weeks, when blue-black subcutaneous masses were noticed in left neck, over left scapula and left acromion. Injections subsequently caused swelling and softening of growths, but new subcutaneous masses appeared from time to time and toxins omitted at end of two months. Recorded in Group D.

Case 125. Personal Case. Referred by Dr. J. B. Hartwell. Multiple melanotic sarcomata. H. B. S., an English blacksmith of 25. O. P. D., No. 216268.

April 25, 1913. Reports with history of excision of small tumors from the left parotid region and left supra-orbital region in England in January, 1913. Three weeks ago recurrence appeared in parotid region, but other smaller masses had appeared on chest two months ago. At present a nodular, non-tender tumor over left parotid size of English walnut; several small tumors in left supra-orbital region size of peas; two or three small pigmented nodules over left breast; and two small pigmented nodules on left arm. I advised against toxin treatment, but it was undertaken as a last hope and continued for 3 weeks. Although some tumors softened and sloughed out, new metastases continued to form. Recorded in Group D.

Case 126. (Case No. 80.) Recurrent melanotic sarcoma of toe. Dr. D. Second toe amputated for malignant degeneration of naevus.

Pathological Report. Melanotic sarcoma. Several months later a recurrence in the groin, size of an egg, was excised. Pathological report, pigmented sarcoma. In two weeks a recurrence 2 x 3 inches. Mixed toxin treatment for six months. Tumor disappeared in a month. Seven months later patient died of metastases in brain. Recorded in Group D.

PAROTID.

Case 127. (Case No. 56.) Recurrent round cell sarcoma of the parotid. E. S., 55, male. Removal of tumor of the parotid size of hen's egg attempted.

Pathological Report. Small round cell sarcoma. Quickly recurred. Toxin treatment for eight months. Maximum dose, 2 minims. Reactions moderate. In eight months tumor had disappeared. No recurrence five years, eight months later. Recorded in Group F.

Case 128. (Case No. 63.) Recurrent spindle cell sarcoma of the parotid. W. L., 41, male. Three operations upon tumor of parotid, followed by recurrence.

Pathological Report. Spindle cell sarcoma. Toxin treatment started when tumor involved parotid and submaxillary region. Treatment for ten weeks with entire disappearance of growth. Six years later death from hemorrhage from gastric ulcer. No evidence of sarcoma. Recorded in Group F.

Case 129. (Case No. 60.) Thrice recurrent mixed cell sarcoma of the parotid. Mrs. B., 25. Three operations upon the parotid followed by recurrence.

Pathological Report. Mixed cell sarcoma. Toxin treatment begun when tumor size of small egg, infiltrating entire gland. Treatment continued four months. Mass reduced in size to small movable nodule. This was excised. Pathological report, no trace of sarcoma. Patient well ten years later. Recorded in Group F.

Case 130. (Table Case No. 10.) Small round cell sarcoma of the parotid. Case of Czerny. A tumor of the parotid had been removed, followed by inoperable recurrence size of fist.

Pathological Report. Round cell sarcoma. After eighteen injections, tumor resolved to a small mass, which was removed. Patient well one year later. Recorded in Group E.

Case 131. Personal case. Referred by Drs. F. T. Murphy and Farrar Cobb. Large spindle cell sarcoma of the parotid (recurrent). G. P. C., an English butler of 34. House No. 178774.

Feb. 10, 1911, Dr. Murphy excised right parotid for mass 3 cm. in diameter, not adherent to the skin, and without glands in neck.

Pathological Report (112-31), Dr. Whitney. Fibrosarcoma. An elliptical piece of skin 6 x 3 cm., with a rather firm indurated tissue beneath, 2 cm. in thickness. Microscopical examination showed normal parotid tissue, in part of which was a firm rather fibrous new growth composed of fibrous tissue, in places very cellular with large elongated nuclei. This tissue infiltrated between the lobules of the gland itself.

About ten days after operation three injections of the mixed toxins on successive days with marked reaction. Maximum dose, 2 minims. Further treatment refused.

Seven months later Dr. Cobb operated for considerable recurrence causing paralysis of the right mouth and right eyelid.

Pathological Report (1110-77) Dr. Whitney. Spindle cell sarcoma. A piece of skin 6 x 3 cm., with a rounded ulcerated area about 2 cm., beneath which was an infiltrating growth. Microscopical examination of the growth showed it to lie in the subcutaneous tissue, and to be formed of interlacing bundles of rather large elongated spindle cells with small openings hollowed out in the tissue for blood vessels.

Two weeks later recurrence size of walnut. Mixed toxins resumed and continued for two months. Reactions marked. Maximum dose, 6 minims. Mass practically disappeared in six weeks, but within a week reappeared, and in another week was the size of half a crab apple, with a second mass the size of a walnut, close by. Patient died in two months. Recorded in Group C.

CASE 132. (Case No. 69.) Fibrosarcoma of the nerve sheath (anterior crural), with involvement of the muscle and glands. B. C. C., boy of six. Mass in the right groin appearing three days after injury with baseball; grew rapidly. Excision with recurrence in fortnight. Toxins for three or four months. Reactions moderate. Two years ten months later patient well without recurrence. Recorded in Group F.

CASE 133. (Table Case No. 91.) Recurrent melanotic sarcoma of the retina. Case of Dr. T. S. McDermott of New Haven. An attempt at removal was followed by recurrence involving the orbit. This was hopelessly inoperable.

Pathological Report. Melanotic sarcoma. Toxins for three months with disappearance of growth. Three and a half years later, however, metastases in liver, and death. Recorded in Group D.

CASE 134. Personal Case. Referred by Dr. Balch. Round cell sarcoma of the spermatic cord involving the abdominal muscles. S. G., Italian of 40. W. S., vol. 675, p. 305. Sept. 8, 1910. Admitted with history of pain and mass in left groin after heavy lifting five months ago. This mass had increased in size until it now extends from the internal ring to base of scrotum. Sept. 9, Dr. Balch performed a left orchidectomy with excision of portion of lower abdominal wall for infiltrating tumor.

Pathological Report (109-32), Dr. F. C. Kidner. Round cell sarcoma.

Toxin treatment started in four days and continued one month. Despite severe reactions a recurrence quickly appeared and grew rapidly until size of a large pear when toxins discontinued. Recorded in Group A.

ERRATUM AND ADDENDA.

Under Conclusions (page 335) the last line of the sixth paragraph should read, An equal division of round and spindle cell, instead of "An equal division of round and small cell."

CASE 1 (page 336) was seen March 18, 1915. There was no objective or subjective evidence of recurrence (3 years, 11 months since toxins discontinued).

CASE 3 (page 337) has written (March 1, 1915) since the paper went to press that there is no evidence of the old trouble and that she is feeling perfectly well. (2 years, 11 months since toxins discontinued).

CASE 94 (page 442) was examined March 16, 1915. There was no objective or subjective evidence of recurrence (2 years, 1 month since toxins discontinued).

Medical Progress.

EIGHTH REPORT OF PROGRESS IN ORTHOPAEDIC SURGERY.*

BY ROBERT B. OSGOOD, M.D.; ROBERT SOUTTER, M.D.; HERMANN BUCHOLZ, M.D.; HARRY C. LOW, M.D.; AND MURRAY S. DANFORTH, M.D., BOSTON.

TUBERCULOSIS.

DaCosta[1], after a thorough discussion of the subject, concludes that the occurrence of traumatic tuberculosis is a necessary deduction from acknowledged facts. He does not believe that the dogmatic decision which has long been a precedent in court, that traumatism has nothing to do with the determination of tuberculosis, can be upheld.

[Ed. Note.—We called attention in the Fifth Report of Progress in Orthopaedic Surgery to the investigations of Wilson and Rosenberger[2], in which nearly the same conclusions were reached. The experience of the editors is also in general accord with this view. It is obvious that tuberculosis does not exist unless tubercle bacilli are present and that traumatism does not produce tubercle bacilli. Nevertheless, their very common existence in the body, without giving rise to symptoms, is well known, and in the light of these investigations it seems probable that trauma may be the direct exciting cause of their rapid development at the seat of the injury into a definite tuberculous lesion.]

Froelich[3] has given much consideration to the tuberculous processes in infants and has pointed out certain special features which these infantile cases present. 1. A tendency to hypertrophy in both bone and joint affections with an early opening and a short sinus period. 2. The frequent involvement of the shaft of the bone in contradistinction to the usual epiphyseal lesion of later life. 3. The tendency to dislocation, especially in the diseases of the hip joint.

* This report is based on a review of 303 articles selected from about 500 titles having to do with orthopaedic surgery, appearing between March and August, 1914. References are given to only such articles as have been selected for note and comment.

4. The occurrence of an acute form most common in the knee and elbow, running a rapid course, healing soon after evacuation, and leaving little stiffness. 5. The common existence of multiple bone foci. 6. The predilection of the process for the testicle and the immunity of the prostate. In making the diagnosis syphilis and a staphylococcus infection must be carefully excluded. The mortality he considers to be about ten per cent. The process in the viscera and peritoneum runs the same grave course as in older children, but in other locations the tendency to spontaneous recovery is very noticeable. This should lead to much more conservative surgical treatment than in older children.

Huntington[4] is still sceptical concerning the permanent cure of bone tuberculosis by rest, fixation, traction and general systemic treatment. He does not believe in the efficiency of conservatism and believes that most bone foci can be easily reached. He reports further cases in which following MacNamara he has tunnelled the neck of the femur through the great trochanter to reach foci in the head of the bone. He thinks epiphyseal lines are often invaded by the disease but need rarely be considered. The cavity may be treated with pure carbolic acid and alcohol, phenol, camphor, Beck's paste, etc.

[Ed. Note.—With the belief which Huntington seems to hold that tuberculosis of the joints is usually best treated by operation designed to remove the tuberculous disease, the editors cannot agree. Localized bony foci not involving epiphyses or epiphyseal lines may perhaps well be so treated in children. In adults surgical procedures designed to prevent the spread of the disease and bring about a bony ankylosis may be often advisable. Rogers' experiments on young dogs have shown that very decided disturbances of growth may result from tunnelling operations through the diaphysis into the epiphysis, and results from purely conservative measures coupled, as in Rollier's clinic, with heliotherapy leave little to be desired. The men who have had largest and longest experience with both radical surgical and conservative treatment in children are the ones who most strongly advocate rest, fixation, and general systemic treatment and oppose surgical procedures designed to radically remove foci of disease involving the joint structures.]

Vulpius[5] considers his results from the Albee operation of bone graft into the spinous processes in tuberculosis of the spine to have been very satisfactory. He emphasizes the eminent pain reducing effect of the operation and the increased activity of the children. He insists upon prolonged rest after the operation and applies a brace.

Jacobs[6] advocates the Albee operation in cases where conservative treatment has failed or the element of time is an important factor, believing that the method represents a great advance in the treatment of Pott's disease except in early childhood. He believes that a callus firm enough to stand the great longitudinal sliding strain in these bone grafts needs many months for its development. He thinks fixation in a jacket or brace should be maintained for six months or more.

Beecherle[7] reports a case of fibroepithelioid tumor of the tendon sheaths of the hand. It is of interest in calling attention to the fact that tubercle bacilli may cause an atypical formation resembling a neoplasm.

ARTHRITIS.

Rosenow[8] has failed in only three out of thirty-eight cases of "arthritis deformans" to isolate organisms from glands draining the affected joints. In fourteen cases he found streptococci, in nine a peculiar staphylococcus-like organism at first completely or partially anaerobic, in nine the bacillus Welchii, in three staphylococci, in one the bacillus mucosus, in one the gonococcus. The author states that "There is often great sensitiveness of the patient to injection of killed organisms (autogenous vaccines) isolated from these glands and marked improvement may follow the injection. These facts in conjunction with the affinity of the organism for joints and muscles of dogs and rabbits after intravenous injections would seem to leave little doubt that the bacteria found in the glands draining the joints in arthritis deformans are the actual cause of the disease." He attributes part of the joint changes to the shutting off of the blood supply of the joints by the plugging of the vessels from endothelial proliferation induced by the organism. This possibly is further suggested by the experiments of Axhausen,[9] who produced the gross and microscopic changes peculiar to arthritis deformans by ligating the blood vessels supplying the structures of certain joints in dogs, and by the later work of von Manteuffel,[10] who, following the work of Rudnicki on the soft parts, produced artificial sclerosis of the vessels and changes in the articular ends of the bones by freezing and congestion. In these experiments of von Manteuffel there was finally complete disappearance of the cartilage and of the entire joint with connective tissue ankylosis of the two bones.

[Ed. Note. From the Editors' point of view it is unfortunate that the types of chronic arthritis are not more accurately differentiated by Rosenow. We suppose that he refers to the toxemic or infectious types and not to the senile hypertrophic types of arthritis deformans, or as Nichols and Richardson call them, the degenerative non-ankylosing types. In these latter we should not expect bacteria to be found as the causative agents, though the diminished blood supply from lime deposit in the vessel walls may well exert an influence on the joint changes.]

Hastings,[11] realizing that cultures from the blood, joints, and possible foci cannot be made in

all of a series of cases and that no one of these would be considered as a determining factor in all cases, has chosen the complement fixation test as a means of determining the bacterial cause of the "chronic infective deforming arthritis." Hastings' observations cover some 75 cases. Forty per cent. of these reacted only to the complement fixation test for streptococcus viridens, in others the gonococcus, Wassermann, and other fixation tests were positive. He considers it very rare that the manifestations of "arthritis deformans" are due to the gonococcus.

Thalhimer and Rothschild[12] produced an arthritis in half the rabbits they injected with streptococcus mitis. In character this arthritis was similar to the process caused by the micrococcus rheumaticus. They think that it is evident that an arthritis can be produced experimentally by blood inoculations of various streptococci and micrococci of the less virulent (non-pyogenic) group, but that evidence is still lacking that any distinct variety or species of streptococci is the specific cause of arthritis, at least in rabbits.

Moore[13] has studied the action of vaccines and concentrated antistreptococcus serum in experimental streptococcal arthritis in rabbits, and while there are yet too few cases for any conclusions, the work is suggestive. Moore's experiments were stimulated by the fact that antistreptococcus serum had not been altogether satisfactory and he desired to find out whether in the presence of certain antibodies the serum was of low potency, hence the trial of the concentrated sera. Concentrated serum does not appear to have any effect on acute arthritis, though it may act as a prophylactic against further experimental infection and it may produce an immunity of from one to two months.

Greeley[14] writes rather positively concerning the cause, and very optimistically concerning the treatment of "chronic rheumatism." He considers that it is experimentally proven that the introduction into an animal of a parasitic organism whose virulence is nearly balanced with the host's power of resistance frequently results in the establishment of chronic foci of infection in locations not reached by the blood plasma and leucocytes in full concentration. He believes that pathologically the lesions of chronic rheumatism occur in this way where the circulation is at a minimum in the arteries in the ends of the bones. He considers that the results in fifty-three cases which he has treated by means of autogenous vaccines have been satisfactory. He obtained the vaccine five times from the blood, fifteen times from the urine, and thirty-three times from the throat, the latter source he considers to be always satisfactory except in gonococcal infection. The vaccines should be autogenous and should never be given in acute cases. The size of his dose (which does not seem to be necessarily exact) is from one hundred million to one billion, not oftener than once in eight to ten days. He believes implicitly in the future of this treatment.

[Ed. Note.—We should like to share in the optimism of Dr. Greeley, but a considerable observation of the results obtained from the use of autogenous vaccines, mainly derived from the throat, does not lead us to believe that the problem at present is either simple or sure of solution by this method. Not only have we failed to obtain any marked improvement in many cases in which we believe the vaccines to have been administered with knowledge and with judgment, but in certain cases it has been evident that the treatment had been too long continued until the patient did not react and seemed more susceptible to fatigue and other infection.]

Brackett's[15] paper on arthritis associated with lesions of the genito-urinary tract is based on a wide experience, and his analysis of types and treatment seems to us clear and sound. He believes the responsible organism to be either the gonococcus or the colon bacillus. The gonococcal infections are of two types. One, usually monarticular, in which there is a direct bacterial invasion of the joint characterized by an arthritis of sudden appearance, giving evidence of very acute synovial inflammatory involvement. This process later shows an inherent tendency to marked contractures with strong adhesions and destruction of articular cartilage. In the acute stage the organism may at times be recovered from the joint. The second type is polyarticular and of a mildly inflammatory nature, slowly damaging the joints from toxic infection. This type may develop with an entirely quiescent external urethral condition. Arthritis associated with a colon bacillus infection of the genito-urinary tract is of a severe persistent type of multiple distribution, having a predilection for the larger joints and frequently for the spine. The treatment in the acute type of Neisser infection should be directed toward the urethral focus and also toward the joint condition. This later requires often radical treatment; in the early stages hot salt solution lavage through a small incision and a subsequent drainage. The later stages of these cases offer ideal conditions for inflation with 4% iodoform oil. (See article on Iodoform Treatment of Ankylosed Joints, BOSTON MEDICAL AND SURGICAL JOURNAL, June 4, 1914). In the toxic types of gonorrheal infection and in the arthritis of colon bacillus origin, the treatment after search for and elimination of the focus should consist of measures aiding the absorption of exudates, improving nutrition, and favoring the return of motion.

Manning and Fassett[16] report a case showing a typical clinical picture of Still's disease with small palpable glands in the cervical, axillary, and inguinal regions, in which carious teeth and a chronic otitis media were apparently the causes of the arthritis. Under general hygiene and the removal of the supposed sources of infection the condition rapidly improved. The case seems to be one more proof that Still's disease is an infectious or toxic arthritis.

O'Mallay[17] draws an interesting analogy be-

tween otosclerosis and arthritis deformans, meaning evidently the osteoarthritic, hypertrophic, or degenerative type. He reaches the conclusion that they are due to the same cause. "The essential factor underlying the morbid changes (in both diseases) is a chemical one affecting the nutritive stability of developing and fully developed bone and cartilage comparable to the rachitic phenomena, but how these chemical disturbances are actually initiated it is at present not possible to explain. Otosclerosis is osteoarthritis of the stapedio-vestibular articulation and of the bony labyrinth capsule."

[Ed. Note. We are interested in these conclusions of O'Mallay, working in another specialty. From a clinical point of view at least the hypertrophic or degenerative type of deforming arthritis occurring late in life has seemed to be best explained on a chemical rather than a bacterial theory of cause.]

We wish to mention a dissertation of Golant[18] on ankylosis of the spinal column. This is based on a careful study of nine cases from von Bechterew's clinic, two of which died and were subjected to a careful macroscopic and microscopic study of the spinal column and the central nervous system. There are 26 illustrations and a bibliography of 221 titles. His most important conclusion seems to be that in certain cases symptoms of the involvement of the central nervous system predominate and at autopsy there are found both chronic meningitis and degenerative changes in the substance of the spinal cord and spinal roots which justified the separation of these cases into a special type known as Bechterew's disease.

Although Perthes[19] has described the typical clinical picture of the condition, osteoarthritis deformans juvenilis, Drehmann[20] wishes to limit more strictly the use of the name by excluding all those cases showing any inflammatory signs or any tendency to contracture. The occurrence is in children between five and ten years of age and is usually limited to one hip. The first symptom is limping without much pain and with free motions except abduction. There is no outward rotation as in coxa vara,—in fact, sometimes slight inward rotation causing the trochanter to appear in the x-ray as slightly enlarged. There is as a rule no shortening. After several years the limp frequently improved and except for a more or less pronounced limitation of abduction there may be a perfect restoration of function. Perthes' pathological examination of a case showed intact cartilage, the head flattened, and its centre depressed. Drehmann, studying the course of cases by radiographs, has observed an atrophic area in the neck just beneath the epiphyseal line, which changed its form under pressure of the head. The primary change he believes to be in the neck, the head of the bone adapting itself to this. He considers the disease to be analogous to coxa vara adolescentium, but in this epiphyseal form the head shifts in the varus direction, *i.e.* downwards, while in the osteoarthritis deformans juvenilis of Perthes the shifting of the head over the neck is in the valgus direction, *i.e.* upwards. Drehmann therefore proposes the name coxa valga epiphysaria. The cause of the condition is still obscure.

The paper of O'Reilly[21] on Joint Syphilis is worthy of comment. It represents a study of 26 cases which show the necessity of careful history taking and both clinical and laboratory examinations in all cases of arthritis. O'Reilly found that 10% of the cases of arthritis in the clinic of Washington University Hospital in St. Louis were syphilitic in origin, and among these cases were many of supposed tuberculosis, osteoarthritis, and infectious arthritis. O'Reilly believes that the Wassermann reaction should be done in all cases of arthritis.

D. W. C. Jones[22] suggests a new etiological classification for arthritis in line with that accepted for disorders of other parts of the body. This seems to the Editors to be simple, inclusive, and based on clinical knowledge. While it is perhaps no better than certain other classifications, it is added evidence of the more general acceptance of the fact of the existence of definite types of chronic and acute joint disease and of the importance of their recognition. The suggested classification is as follows: 1. Senility—Osteoarthritis. 2. Metabolic Toxemia — Gout. 3. Infectious Toxemia — Acute Rheumatism, Rheumatic Arthritis. 4. Focal Infection—Gonorrheal, Pneumococcal. 5. Granulomatous Infection — Tuberculous, Syphilitic. 6. Neoplasms (Rare). 7. Trauma — Traumatic Synovitis, Hemophilic Joints.

PARALYSIS.

Poliomyelitis—Obstetrical.

Poliomyelitis.—If their observations are verified, Saunders, Meisenbach, and Wisdom[23] have made a very important contribution to the epidemiology of Poliomyelitis. With others they have been impressed by the variety of diseases associated with paralysis which affect farm animals, children, hogs, dogs, pigeons, and others. They searched, therefore, for a larval fly which when ingested might produce these conditions. The common green backed fly (Lucilia Caesar) seemed to fulfill these requirements, depositing freely its eggs in the carcasses of animals. Upon these dead bodies chickens often feed. Experimentally they produced in monkeys and other animals a characteristic poliomyelitis by inoculating them with larvae obtained from the bodies of dead fowl. The course of the disease and the microscopic lesions were typical. They transmitted the disease by inoculations with emulsions of the spinal cord. They were able to produce the disease in hogs, chickens, rabbits, and guinea pigs by both inoculations and ingestions of the infected larvae. These larvae may be left by the fly on any piece of food upon which she rests and

the authors plead strongly for the extermination of the fly, the isolation of all sick animals, the covering of manure piles, and the screening of kitchens.

Francis[24] reports unsuccessful attempts to transmit poliomyelitis by the bite of the blood sucking cattle fly (Lyperosia irritans). Shaved monkeys, sick with poliomyelitis, were bitten by these flies for six days. The flies were then allowed to bite four well monkeys for six days. The disease was not transmitted in any instance.

Flexner, Clark, and Amoss[25] state that a strain of the virus of poliomyelitis transmitted through monkeys for four years showed three distinct stages of virulence each covering different periods of time. They suggest that this phenomenon of the cycles of change in the virulence may be correlated to the wave-like fluctuations in epidemics.

Robert Jones[26] has reviewed in his characteristically helpful manner the surgical treatment of poliomyelitis, emphasizing the important principles which should form the basis for all orthopaedic treatment. Perhaps the most essential factor is the possession by surgeon and patient of "boundless spirit and buoyant enthusiasm." In his description of his operations for correction of position and restoration of function in the paralyzed member by tendon transplantations, etc., he is most explicit, and one feels that no detail of technic is too small to be most carefully carried out.

Artificial ligaments and tendon fixations, especially the latter, he believes to be of great usefulness, not only because they improve function by maintaining a better position, but also because they allow over-stretched but not completely paralyzed muscles to regain some degree of power.

[Ed. Note.—Those who have had the opportunity to observe the results obtained by Mr. Jones by the use of the surgical measures he advocates need no better proof of the soundness of the principles which have dictated his exquisite technic.]

Netter[27], on the principle that the serum of persons who have had an attack of poliomyelitis might contain antibodies capable of exerting an effect upon the virus present in an acute attack, has made intraspinal injections of serum obtained from old cases of poliomyelitis. His most striking case was that of a man of 34 who was apparently recovering from a severe, acute poliomyelitis, when on the eighth day his legs became paralyzed. There was retention of urine and disturbance of sensibility extending up to the costal arch. On the ninth day, with the paralysis apparently progressing, Netter injected into the spinal canal 7 c.c. of serum obtained from a person who had had poliomyelitis seven years previously. By this time the anesthesia extended to the nipples, but on the evening of the day on which the injection was given the patient could "feel his toes." He was given ten injections in eleven days, the amount totalling 66 c.c., the serum being obtained from eight different persons. Netter had applied this treatment in four other cases, but with such timid technic and with so few injections that although he says there was marked benefit apparent each time, yet some paralysis was left or the patients succumbed sooner or later.

Fraser[28] has reported the results of his careful clinical observation of ninety cases of acute epidemic poliomyelitis. He is doubtful of the great value of electricity. He is convinced of the value of early gentle massage and passive exercises, and later active and resistive exercises. We believe he emphasizes an important point when he speaks of the desirability of avoiding heavy braces and of persistent attempts to get the children to walk without any apparatus except that to prevent deformity.

Obstetrical Paralysis. Peltesohn[29], after a careful Roentgenological examination of eleven shoulders in ten cases of obstetrical paralysis, has found an injury to the upper epiphysis in nine. Of these nine, three were true paralyses and six pseudo-paralyses. In all cases, therefore, of pseudo-paralysis a definite separation was seen. Peltesohn believes that a real separation of the epiphysis is much more frequent than Lange considers it to be. The treatment in infants consists in fixing the arm in a position of elevation, abduction, and outward rotation, provided the epiphysis is united. If the epiphysis is still loose a position, of course, must at first be maintained which is most favorable to union. In older children manipulation may be helpful, but with a fixed distortion of the shoulder osteotomy below the insertion of the tendons of the pectoralis major seems to Peltesohn to be the best procedure.

(To be continued.)

Reports of Societies

SECTION OF GENERAL INFORMATION OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

MEETING OF MONDAY, DECEMBER 14, 1914, AT 8.15 P.M.
DR. JAMES E. TALLEY in the Chair.

RECENT CHANGES IN OUR CONCEPT OF THE ACTION OF DIGITALIS.

DR. H. C. WOOD, JR.: Many of the older theories concerning the effects of digitalis are drawn from experiments in which toxic doses were employed. When given in physiological doses, digitalis does not increase the blood pressure in either man or the lower animal. It is probable, however, that there is some constriction of the blood vessels, as is shown by the fact that when the slowing of the pulse is prevented the pressure is increased, and it is probable also that the diuretic effect is due to changes in the caliber of the vessels. The slowing of the

pulse, which is the most constant effect of digitalis, is in healthy individuals purely inhibitory. Stimulation of the vagus may produce heart block and other irregularities of rhythm. The slowing of the pulse is completely abolished by large doses of atropine. The muscular tone is not demonstrably affected after small doses, although it is possible that the largest therapeutic doses may increase it. The cardiac contractions are, however, enlarged. The effects in disease are often very different from those in health. In fever the vagus appears to be less than normally irritable, and digitalis does not slow the pulse. In chronic endocarditis the effects are different according to whether the rhythm is normal or there is auricular fibrillation. In the latter condition it will generally produce very great slowing of the pulse. It is impossible from the present data to draw positive conclusions as to the mechanism of its action in this condition, but it is probably partly due to stimulation of inhibition and partly to diminished ventricular irritability, the result of better nutrition. In cases of endocarditis with normal rhythm its effects are often much less marked. It is a mistake to give digitalis in all cases until the manifestation of toxic effect. Some conditions require larger doses to have any action, while others may be injured by full doses, but benefited by small ones.

CLINICAL AND ELECTROCARDIOGRAPHIC STUDIES OF THE ACTION OF DIGITALIS.

Alfred B. Cohn, M. D., of the Hospital of the Rockefeller Institute for Medical Research: The investigations reported were made in patients having an early rather than an advanced stage of heart disease. The mechanism of their hearts was normal, they had no edema, and their blood pressure was within normal limits. The most important alteration we have been taught to look for is in the heart rate. The reduction in the rate of the heart is an effect of digitalis upon which we rely, but one which we have not found constant in the type of case we are considering. We have been led to conclude from our observations that digitalis slows the sinus rhythm only in the group or hypodynamic hearts, and, that to produce slowing is not a function of digitalis in therapeutic doses. An effect on conduction may be set down as a usual effect of giving the drug, apart from specific preëxisting injury. We have noticed delayed conduction within 48 hours after the administration of the drug had been started. In many instances the auriculo-ventricular internal gradually lengthened during the succeeding three to five days until partial heart block occurred. In some cases, however, block occurs with extreme abruptness. One arrhythmia, practically unknown, the results of giving digitalis, is one in which none of the auricular beats are blocked. The auricles and ventricles continue to beat almost at the same time, but there is incomplete coördination between them. Another new sign in the electrocardiogram is an alteration in the size, shape and direction in the T-wave. The first change noted after the administration of digitalis is usually a diminution of the height of this wave, usually in the third Lead first and later in the second. The change may be noticed as early as 24 hours, and at the end of 48 hours the wave may have become isoelectric, or it may become diphasic. In some electrocardiograms the T-wave for pathological reasons is pointed downward. If digitalis is given, the direction of the T-wave during the action of the drug is pointed upward. While the causative factors in the change of the T-wave cannot be precisely explained, the inference is that there is an alteration in the contractile substance of the heart muscle. Two criteria appear then in electrocardiograms to indicate surely the fact that digitalis is acting on the heart; the first in the slight but defi-lengthening in conduction; the second, the very curious alteration in the T-wave. Electrocardiographic evidence can be supplied to show that digitalis has an action during fever of a nature precisely similar to that already described in non-febrile patients. Possibly, as an aid to contraction, much can be gained from the use of digitalis, but the expectation of obtaining an action on heart rate must be abandoned. There is, however, a group of febrile cases in which digitalis acts efficiently on rate. These in our experience have been patients showing auricular fibrillation or auricular flutter. Another topic long a subject of conflict is the relation of digitalis action to blood pressure. In the cases we have studied no alteration in pressure was found. Vascular effects, however, aside from changes in pressure, may be produced, and the untoward or beneficial nature of these require consideration. The relation of digitalis to the excretion of urine also was discussed. In the group of patients under consideration no increase in diuresis takes place. In patients having edema, other factors are involved. That a specific effect on urinary output does not occur as the result of giving digitalis, in the patients under discussion, has an important bearing on the drug's action in edema. In connection with the mechanism of the action of digitalis two possibilities have been much discussed; an action on the inhibitory mechanism and one on the heart muscle itself. Our studies lead us to believe that both views are partly right. Insofar as atropin may be taken to be a drug acting especially on the ends of the vagi, a release of the heart from a phase of digitalis action by its use indicates a nerve action of digitalis. Insofar as digitalis has other effects which atropin does not release its effect on the T-wave, it may be inferred that it has an action directed more especially to muscle. Both effects can be observed at the same time.

Book Reviews.

Forty-Sixth Annual Report of the Secretary of State on the Registration of Births and Deaths, Marriages and Divorces in Michigan for the Year 1912. Lansing, Mich.: State Printers. 1914.

This forty-sixth annual registration report records the vital statistics of the State of Michigan for the year 1912. During this period the birth-rate of the state was 32.9, the death-rate 13.4, the marriage rate 21.8, and the divorce rate 2.7. There was a total increase of 3,781 births, 797 deaths and 1835 marriages over 1911.

THE BOSTON
Medical and Surgical Journal

An independently owned Journal of Medicine and Surgery, published weekly, under the direction of the Editors and an Advisory Committee, by the BOSTON MEDICAL AND SURGICAL JOURNAL SOCIETY, INC.

THURSDAY, MARCH 25, 1915.

EDITORS.

ROBERT M. GREEN, M.D., *Editor-in-Chief.*
WALTER L. BURRAGE, M.D. } *For the Massachusetts Medical Society.*
FREDERICK T. LORD, M.D. }

COMMITTEE OF CONSULTING EDITORS.

WALTER B. CANNON, M.D.
HARVEY CUSHING, M.D.
DAVID L. EDSALL, M.D.
REID HUNT, M.D.
ROGER I. LEE, M.D.
ALLAN J. MCLAUGHLIN, M.D.
ROBERT B. OSGOOD, M.D.
MILTON J. ROSENAU, M.D.
EDWARD C. STREETER, M.D.
E. W. TAYLOR, M.D.

ADVISORY COMMITTEE.

EDWARD C. STREETER, M.D., *Boston, Chairman.*
WALTER P. BOWERS, M.D., Clinton.
HOMER GAGE, M.D., Worcester.
JOEL E. GOLDTHWAIT, M.D., Boston.
LYMAN A. JONES, M.D., North Adams.
HUGH WILLIAMS, M.D., Boston.
ALFRED WORCESTER, M.D., Waltham.
ROBERT B. OSGOOD, M.D., Boston, *Secretary.*

ERNEST GREGORY, *Manager.* W. M. LEONARD, *Consulting Manager.*

SUBSCRIPTION TERMS: *$5.00 per year, in advance, postage paid, for the United States. $6.56 per year for all foreign countries belonging to the Postal Union.*

The editor will be in the editorial office daily, except Wednesday and Sunday, from twelve to one-thirty p. m.

Papers for publication and all other communications for the Editorial Department should be addressed to the Editor, 126 Massachusetts Ave., Boston. Notices and other material for the editorial pages must be received not later than noon on the Saturday preceding the date of publication. Orders for reprints must be returned in writing to the printer with the galley proof of papers. The Journal will furnish the first one hundred reprints for half the cost price.

All letters containing business communications, or referring to the publication, subscription, or advertising department of the Journal, should be addressed to

ERNEST GREGORY, *Manager.*

126 Massachusetts Ave., Corner Boylston St., Boston, Massachusetts.

THE LABOR CLEAN MILK BILL, AGAIN.

A CORRESPONDENT of the JOURNAL of March 11 criticizes the editorial of Feb. 25, favoring the so-called Labor Clean Milk Bill, and by inference the position of the Massachusetts Medical Society, which through its legislative committee, has appeared in advocacy of this bill before the Committee on Public Health. In so doing, the Society has ranged itself alongside the Milk and Baby Hygiene Association, the Consumers' League, and the Antituberculosis League. It also has been glad to find itself in accord in this instance with the Federation of Labor, which organization it has sometimes been pained and surprised to find opposed to measures of public health, as, for instance, smallpox vaccination.

The measure this year introduced by the Federation of Labor is, as was stated, simple and direct, and its advocates have clearly shown that no class of the community has so vital a stake in public health measures as the wage-earners. When, as now, the Labor party takes a wise and moderate position, it behooves the good citizen to avail himself of their certainly powerful aid.

The gist of the correspondent's opposition to the bill appears to be that it is unnecessary, as local boards of health have power to handle the situation. In a community whose health administration is as efficient as Canton's appears to be, a community drawing its milk supply wholly from its own confines or vicinity, and especially *inside the state limits*, this may be true. But the best local board, unless given abundant money to go and examine out-of-state sources, as is done in Massachusetts by Boston only, would be powerless to protect its inhabitants. A possible factor in the low estate of the milk industry in Massachusetts is the severer standard exacted of our own producers than that required of out-of-state farmers. This bill bears equally and impartially upon both.

Moreover, the scrutiny of out-of-state sources by separate municipalities would be very uneconomical. A bill has been reported giving the State Board an appropriation for this purpose, and should this be carried, the work of health boards, local or state, in penalizing filthy conditions of milk handling, would be much facilitated.

But, unfortunately, not all local boards are as wide awake and active as that of Canton. Many towns have no milk inspection whatever. In others, local politics, the overshadowing influence of some local magnate, and the hesitation of the local authority to offend a good neighbor, weaken the endeavor and efficiency of the local board. It is hardly adequate to say that in case of a feeble health board the people "ought to" rise up, sweep it away, and elect an active board. The torpor of the board only reflects the indifference of that community. In such cases, and in those only, the State Board should be empowered to step in, free from any local intimidation, and see that the people are protected against the consequences of their own neglect.

CHARLES F. WITHINGTON, M.D.,
President of The Massachusetts Medical Society.

FACTORS IN THE DURATION OF PULMONARY TUBERCULOSIS

In another column of this issue of the Journal we publish an important article by Dr. Crane on "The Diagnosis and Treatment of Pulmonary Tuberculosis." Now that a diagnosis of tuberculosis is no longer tantamount to a death sentence, the question of prognosis and duration in a given individual becomes most pertinent. In no other disease has this question quite the same significance, because this disease involves a personal incapacity and dependence over a long period of time as well as involving the undoubtedly large element of danger as a constant focus of infection unless the patient is maintained under strict surveillance, or unless he is himself sufficiently educated in the hygiene of tuberculosis so that he needs no surveillance.

While it is true that this question of prognosis and duration cannot be determined as easily or as definitely as in the rather few self-limiting diseases, yet certain conditions peculiar to this disease when accorded their proper values are of positive aid—namely, racial and hereditary predispositions or immunity, previous physical condition, occupation and environment, and the extent of the lesion in the lung at the time the patient first came under notice.

Although it is not scientific to speak of tuberculosis as racial or hereditary in its selection, yet practically speaking heredity and race seem to be profound factors in this disease. Certain races are comparatively immune to tuberculosis, or when occuring it runs in them a milder and longer course; in other races it is more common, runs a more severe and shorter course. The Jews have a relative immunity to tuberculosis which they may have acquired from having lived so many centuries in overcrowded and unhygienic quarters. The predisposition of the Irish and the Italians to tuberculosis manifests itself only after removal from their native environment. In the later generations after this removal this predisposition is gone, probably as a survival of the fittest. The proneness of the Italian immigrants to tuberculosis can be ascribed to the difference in occupation and the somewhat changed mode of life. The number of returning tuberculous Italians has been so large that their government has had to provide extra facilities for them. These immigrants wilted and succumbed in the attempts to be transplanted on new soil and under new conditions. After all, then, the question of race and heredity is only one of physical powers of resistance; it is the dominant characteristic possessed by one race, which may be lacking in another, that determines immunity or predisposition.

The physical condition together with the habits of life prior to infection modify the course of this disease, since they bear on the ability of the patient to withstand the devitalizing influences of the disease. It is peculiar that such individuals as have had outdoor occupations, who have engaged in heavy work, and who have robust bodies, such as are found among sailors, workers in the construction trades and the like, often fare much worse, or are incapacitated over longer periods, than the average city product of poor physique when he is infected—although, to be sure, the census of the latter is much greater. An explanation may be found for this condition in the fact that those of poor physique and of indoor life and occupation react very quickly and favorably to the stimulation of the new environment and the beneficent effect of the new mode of living enjoined on the afflicted. In tuberculosis the ability to make a change is of prime importance in effecting a cure. In the robust who have previously lived or worked out of doors, there can be little change for the better in the matter of environment at least, although there can be much change by way of temperate living.

While absolute reliance cannot be placed on the physical signs to denote the extent of the lesion and therefore the prognosis and duration, yet the size of the lesions, when they are considered in conjunction with the physical condition of the patient, furnishes important data in arriving at the prognosis. A large area of lung involvement and the patient withal in good condition means either that the infection is mild and of slow progress and long duration, or what is less likely, that the patient is extremely resistant to a rapid and severe infection. A lesion large of size but of recent origin would have been so rapid in its course as quickly to sap the patient's vitality. On the other hand the slow progress has made possible the development of a large area without great physical detriment to the patient; the slow progress allowing the body to overcome each new inroad of the disease as it arises. At no time is the disease allowed to become severe enough to overwhelm the patient. Moreover, a small lesion, with the patient never-

theless in debilitated conditions, means a rapid virulent infection and low resisting power, since if this type of infection had been of long standing it is not likely that it would have been limited to this small area, and if limited for a long time, it would not have had so deleterious an effect on the patient. During this period the patient would have been immunized against the toxic effects of the disease and shown little ill effects therefrom.

A large lesion, therefore, with good physical condition has a good prognosis both for ultimate outlook and duration—under proper conditions. A small lesion with the patient apparently overwhelmed within the short time that the disease has been manifest has a bad outlook even under the best conditions. Of course, a small lesion with the patient in good physical condition—*i.e.* incipient tuberculosis—in the average individual offers an excellent chance of recovery within a comparatively short time. It is these incipient cases which were unrecognized before the present rather more delicate methods of diagnosis—and, indeed, many of them are still unrecognized. It was Virchow who proclaimed the now famous dictum that all persons at one time or another are infected with tuberculosis but that most of them recover without symptoms or diagnosis.

The previous behavior of the disease is an important factor in determining its subsequent course, duration and severity, as well as the ability of the patient, from the economic standpoint, to carry out the necessary regimen for cure.

Finally, the most important element in the prognosis of pulmonary tuberculosis is its early diagnosis. An early diagnosis means cure. A late diagnosis, one at any time after the incipient stage, requires a guarded prognosis. It is the function of the practitioner to make the early and accurate diagnosis in order that the treatment may be prompt and efficacious.

THE IMPORTANCE OF REST IN THE TREATMENT OF GRAVES' DISEASE.

IN an exhaustive paper on the "Diagnosis of Thyroid Disease as Related to Surgical Treatment," presented at a recent meeting of the Medical Association of the Greater City of New York, Dr. Martin B. Tinker of Ithaca, who is a recognized authority on the subject of goitre, made the remarkable statement that he had succeeded in reducing the risk of thyroid surgery to a fraction of one per cent. This, he said, had been rendered possible only by "team work" in the matter of diagnosis and particular attention to the after-treatment. A decision as to whether or not thyroid disease existed, and whether such disease, if present, were the chief cause of the patient's discomfort, frequently required most careful application and wise interpretation of (1) a general physical examination; (2) special examination, especially of the eyes and throat; (3) laboratory tests; (4) x-ray examination. He emphasized the necessity of post-operative care for from six months to a year; stating that prolonged rest was of the utmost service, and that without this the surgical operation could not effect much. In the treatment of exophthalmic goitre, rest is no less an essential element in cases in which surgical interference is not called for than in those in which this is necessary. Many authors, in writing on this disease, make no reference whatever to its therapeutic value, and it would appear that its importance is by no means generally appreciated.

In concluding a paper, published in the *Medical Record* for March 13, in which are recorded certain observations on clinical treatments for this disease (which she prefers to designate by the name introduced by Bainbridge—systemic goitre,) Dr. Mary Sutton Macy, neurologist to the Demilt Dispensary, New York, lays stress on the kind of rest necessary in re-establishing the normal physiological balance in a patient suffering from the affection. Rest, if both physical and mental, affords unhampered opportunity to the *vis medicatrix naturae* to restore such physiological balance and possibly produce a cure. In the required regimen she contends drugs, sera, hormones and other therapeutic means take their proper places, as crutches prescribed to sustain, for the time being, some crippled portion of the organism, and should therefore be given symptomatically, and not as remedies for the hyperthyroidism *per se*. Rest, if properly enforced, requires considerable of the physician's time and personal attention, since only very few patients know *how to rest*. The art of muscular relaxation and passive innervation of the muscles is a difficult one to ac-

quire, and a still more difficult one to teach to a patient whose whole personality is an expression of active innervation and muscular tension; and this kind of rest must be minutely taught to one who is the subject of Graves' disease.

Incidentally, Dr. Macy suggests as a possible theory regarding the etiology of exophthalmic goitre that it is a pathological syndrome secondary to a profound disturbance of the physiological pubertal balance by exhaustion of the nervous system, either rapidly by strong emotions, such as fear and grief, or more slowly through long-sustained effort to gratify ambition (intellectual or physical). This hypothesis is based first, on the fact that certain parallelisms in the picture of pubertal physiological balance and hyperthyroid symptoms have been noted by various observers, and, second, the general admission by most authorities that shock is an etiological factor, and the history of pubertal shock in one hundred per cent. of the cases in a series of forty-four recorded in her paper. The occasional cases of hyperthyroidism observed in children under the extreme low variation of normal pubertal age (which has been placed at seven years) may possibly be due to some similar condition which must account for the equally occasional cases of precocious menstruation and other infantile abnormalities of sexual maturity. Again, the fact that so many cases of Graves' disease are not recognized—or, as some claim, do not appear—until the third, fourth or even fifth decade of life, does not, it is contended, disprove the theory, since all authorities admit that hyperthyroidism is frequently masked for years, and often mistaken for neurasthenia, hysteria, chronic laryngitis, etc., prior to the appearance of the exophthalmos and the marked thyroid enlargement. If this etiological theory will bear dissection and proof, it will serve, the author believes, to explain in large measure why so many widely different types of treatment meet with similar successes and failures, dependent largely, if not entirely, on the extent to which the therapeutic measure, rest, is carried and enforced as an accompaniment.

SALARIES OF DISTRICT HEALTH OFFICERS.

In the issue of the Journal for March 11, we noted the appointment, by Dr. Allan J. McLaughlin, Massachusetts State Commissioner of Health, of the eight district officers who are to have charge of the administration of public health affairs under the direction of the state department of health. Under the law, the health commissioner was given the right to select and appoint these officers, but their salaries are to be established by the governor's council, and some uncertainty seems to have arisen in the determination of their compensation. At a recent meeting of the council to deal with this question, the following order was adopted, requesting the attorney-general's opinion on the interpretation of the statute dealing with this point.

"Ordered, that the attorney-general be and is hereby requested to give to the council his opinion concerning the legal effect of the first ten lines of Section 5, chapter 792, Acts of 1914, especially answering the following questions:

"1. In the event of the appointment of a district health officer by the commissioner of public health, with the approval of the public health council, taking place, is it necessary that the compensation, subject to the approval of the governor and council, shall be fixed before said district health officer is entitled to perform his duties?—or

"2. Is he so entitled to perform his duties after his appointment by the commissioner and approval by the council prior to the fixing of his compensation by the governor and council?

"3. Does the phrase 'shall not engage in other occupation and shall give their entire time to the performance of their duties,' prevent a district health officer from in any way practising his profession for his private gain?"

The attorney-general's decision on these questions has since been returned, and the Council on March 19 approved the salary schedule of the new district health officers.

ENFORCEMENT OF LAW FOR LOCAL TUBERCULOSIS INSTITUTIONS.

In an editorial on the local care of advanced tuberculosis in the issue of the Journal for February 25, we commented on the delinquency of various Massachusetts cities and towns in compliance with the law requiring the establishment of tuberculosis dispensaries in all commu-

nities of more than ten thousand inhabitants. During the past week, in accordance with a recent vote of the public health council, Dr. Allan J. McLaughlin, state commissioner of health, has issued a notification to thirty of these communities requiring them to comply with this statute before July 1 of the current year. The thirty cities and towns affected by this order are: Holyoke, Malden, Newton, Fitchburg, Taunton, Everett, Quincy, Chicopee, Medford, North Adams, Northampton, Beverly, Revere, Leominster, Attleboro, Westfield, Melrose, Woburn, Marlboro, Milford, Adams, Weymouth, Watertown, Southbridge, Plymouth, Webster, Methuen, Wakefield, Greenfield and Winthrop.

It is understood that the attorney-general will be asked to proceed against such communities as fail to comply with this request within the specified time. The law provides a fine of $500 as penalty for failure in such compliance. It is further expected that a similar notice will be served upon larger cities which have failed to establish tuberculosis hospitals, as required by law, and that these communities will be given until September 1 to meet this requirement.

MEDICAL NOTES.

LOW NEW YORK DEATH-RATE.—From figures supplied by Dr. William H. Guilfoy, Registrar of the Department of Health, it is clear that the past week in New York City was most healthful. The great decrease in the mortality of the week ending March 6, 1915, continued during the past week, although not to as large a degree as last week.

Comparing the figures for the past week with the corresponding week of 1914, reveals a considerably decreased mortality for nearly all causes of death, with the exception of the degenerative diseases, organic heart and kidney diseases, in which the death-rate was approximately the same.

So far as the age periods of those dying last week are concerned, the figures show a great saving of life among the adults, including the extremely old.

The death rate was 1 1-3 points lower, which corresponded to a relative decrease of 151 deaths. The death-rate so far this year, namely 13.95, is considerably below that of the corresponding period in 1914, there being a decrease in the rate of 1.5 points.

NEGROES IN THE UNITED STATES.—The bulletin on negroes in the United States, issued on March 20, by William J. Harris, Director of the Census, Department of Commerce, contains for the first time a statement regarding mortality among negroes. All previous census publications have given statistics for the total colored population, in which were included the Chinese, Japanese, Indians, and other non-whites. The data are shown for the registration area of the United States, the registration states and certain selected cities.

The negro population of the area was 19.7% of the total number of negroes in the United States in 1910, and the deaths numbered 49,499, with a death-rate of 25.5 per 1000 population— a decrease as compared with the rate in 1900, which was 29.4. The selected cities shown are the 57 registration cities which had, in 1910, a negro population of 2500, or more, for which comparable data are available in 1900.

In the 57 cities included in the table the death-rate among negroes in 1910 was 27.8, and that among whites 15.9 per 1000, the rate among the negroes being nearly twice as great as that for the whites. In the 33 northern cities the death-rate among negroes was 25.1 and that among white 15.7 per 1000, while in 24 southern cities the rate for negroes was 29.6 and that for whites 16.9. Thus the death-rates for each race were higher in the southern than in the northern cities, the difference between the races in respect to death-rate also being greater in the south.

Both negroes and whites show decreases in death-rate in 1910 as compared with 1900, when the 57 cities are considered in the aggregate, the decline for the negroes being 3.4 and for whites 2.5 per 1000 population. Every city in the south, except Key West, Fla., and Memphis, Tenn., showed a lower death-rate for negroes in 1910 than in 1900; the increase in Key West was only 0.2, while in Memphis it was 3.9 per 1000.

The general tendency appears to be in the direction of a declining death-rate for negroes in registration cities, the decrease being somewhat greater for negroes than for whites; as a result, the difference between the death-rate for negroes and for whites in these cities was not as great in 1910 as a decade earlier.

The question whether the decrease in mortality among negroes in 1910 as compared with that of 1900 was due to permanent causes, such as improved housing conditions, better medical attention, and in general improved sanitary conditions, and not to the absence of epidemics, is important and interesting. Undoubtedly one of the factors which has caused the decrease in the death-rate—which decrease is almost universal in the cities of the south—is the increase in home ownership among the negro population. The ownership of homes data for the northern states and cities are not available, and what is presented here relates only to the south. In the decade from 1900 to 1910 the number of homes owned by negroes in the southern states increased by

102,912, or 31.4%; this increase covering increase in farm homes of 30,449, or 16.7%; and in other homes of 72,463, or 49.8%.

LONDON DEATH-RATES IN JANUARY.—Statistics recently published show that the total death-rate of London for January, 1915, was 19.6 per thousand inhabitants living. Among the several districts and boroughs, the highest rate was 24.1 in Southwark, a populous southern quarter, and the lowest was 14.2 in Hampstead, an open district on the north.

COMMISSION FOR THE ERADICATION OF TYPHUS AND CHOLERA.—The American Red Cross Society and the Rockefeller Foundation recently made a joint offer to Dr. Allan J. McLaughlin, Massachusetts State Commissioner of Health, to go to Serbia as the administrative head of a commission for the eradication of typhus fever and Asiatic cholera. The funds necessary to finance this expedition were to be furnished partly by the Red Cross, partly by the Rockefeller Foundation, and partly by the Serbian government. Interesting and important though this expedition is, it is a matter of congratulation and good fortune for the Commonwealth of Massachusetts that Dr. McLaughlin decided to decline this opportunity.

The position was next offered to Dr. Richard P. Strong, professor of tropical diseases in the Harvard Medical School and has been accepted by him. Dr. Strong sailed, on March 17, for Europe, as a member of the Harvard expeditionary unit destined for service at the American Ambulance Hospital in Neuilly, Paris. It is presumable, however, that after landing at Gibraltar he will proceed instead to Serbia. It is announced by the Red Cross that the necessary sum of $50,000 has been procured for carrying out the work of this sanitary commission. The further personnel of the commission of which Dr. Strong is the head, will be as follows:—

Chief sanitary inspector, Dr. Thomas W. Jackson of Philadelphia; bacteriologist, Dr. Hans Zinsser, professor of bacteriology, Columbia University; clinical laboratory assistant, Dr. Andrew W. Sellards of the Harvard Medical School; clinical assistant, Dr. George C. Shattuck of the Harvard Medical School; assistant sanitary inspector, Dr. Francis B. Grinnell of the Harvard Medical School. Dr. Nicolle, the French expert on typhus, has been invited to cooperate with the commission. Charles S. Elby of Washington, lately connected with the United States immigration service, is disbursing officer and secretary.

PROMOTION OF DR. GORGAS.—It is announced from Washington, D.C., that Surgeon-General William C. Gorgas, U.S.A., has been promoted to be a major-general in the medical department.

AWARD OF THE BERLINER FELLOWSHIP.—It is announced that the Sarah Berliner fellowship for women has been awarded to Dr. Janet T. Howell, a graduate of the Johns Hopkins University. This fellowship of $1000 enables the recipient to engage in research in physics, chemistry or biology.

AMERICAN POSTURE LEAGUE.—The second annual meeting of the American Posture League was held in New York on March 13. Dr. Joel E. Goldthwait of Boston, vice-president of the league, delivered the leading address, on "Recognition of the Different Anatomic Types in the Understanding of Special Postures." Other addresses were delivered by Drs. William A. Howe, S. Josephine Baker, Anna L. Brown, Eliza M. Mosher, Henry L. Taylor and Percy W. Roberts of New York, and by Dr. F. R. Green of Chicago. The central committee on public health organizations, which met in New York on the same date and several of whose members are officers of the Posture League, also attended the meeting and the luncheon which preceded it. A meeting of the directors was held earlier in the day for the election of officers.

NATIONAL RADIUM INSTITUTE.—Report from Washington, D. C., on March 12, states that a second instalment of radium bromide, valued at $19,000, prepared by the federal bureau of mines at Denver, Colo., has been turned over to the national radium institute for use in the treatment of cancer and other affections.

FREE VACCINATION FOR GOVERNMENT EMPLOYEES.—Report from Washington, D.C., on Mar. 13, states that the treasury department has directed the medical officers of the United States Public Health Service to provide free vaccination against smallpox or typhoid fever, or both, for all civil employees of the government engaged in interstate travel or in handling mail or other material for interstate traffic, whenever request for such vaccination is voluntarily made by the employees.

GRADUATE SCHOOL OF MEDICINE OF CHICAGO.—A report from Chicago on March 13 announces the proposed establishment in that city of a new and comprehensive school of medicine and sanitary science, to be known as the Graduate School of Medicine of Chicago. The foundation is expected to begin its work on May 1, and will have provision for 3000 students.

"The graduate school will not be conducted for pecuniary gain. Its sole object will be the advancement of medical science. Cook County physicians will receive post-graduate work free. Outside physicians will contribute a nominal sum. A central bureau will disseminate information regarding discoveries made and work accomplished. Eventually the foundation will be under the control of the large universities of Illinois, thus eliminating any politics or commercialism. No favors will be shown any faction of the medical profession. Already 250

'teaching' physicians and surgeons in all branches of the medical profession have tendered their services as instructors. More than 100 more are to be selected, each regarded as an authority. The foundation will be composed of a number of hospitals, sanatoria, and laboratories in Cook County. It is proposed to have departments of both curative and preventive medicine.

PHILADELPHIA DEATH-RATES IN 1914.—A recently published monthly bulletin of the Philadelphia Board of Health summarizes the monthly statistics of that city for the year 1914. The total death-rate for this period was 16.5 per thousand, an increase of 0.5 over 1913. Several diseases showed an increased incidence also over the preceding year. Of the preventable diseases, pertussis increased 39%, influenza 48%, tuberculosis 4%, infantile diarrhea 18%, and pneumonia 14%. Of diseases not amenable to control, heart disease showed an increase of 7% over 1913, nephritis 2%, and apoplexy 9%. On the other hand, typhoid fever showed a diminution of 51%, scarlet fever 20%, diphtheria 7% and measles 63%.

EUROPEAN WAR NOTES.—Report from New York on March 13 states that a gift of $15,000 has been received in Philadelphia, enabling the medical school of the University of Pennsylvania to endow, for three months, a ward of forty beds at the American Ambulance Hospital at Paris.

Report from London on March 16 states that since the beginning of the war the loss of British horses has been at the rate of only 15% per annum, as compared with the loss of between 55% and 60% per annum in the South African war. This loss is more largely due to pleuropneumonia.

On March 19 the total of the New York Belgian relief fund amounted to $981,831.64; the New York Jewish relief fund to $573,267.00; the New York Red Cross fund to $470,871.44; the American Ambulance Hospital fund to $367,015.00; and the Prince of Wales fund to $112,503.59.

On March 20 the total of the New England Belgian relief fund amounted to $236,431.76; the Massachusetts Red Cross fund to $112,691.30; the Boston Jewish relief fund to $48,907.70; and the Boston German relief fund to $26,035.84.

BOSTON AND NEW ENGLAND.

MEASLES AND PERTUSSIS IN WAKEFIELD.—Report from Wakefield, Mass., on March 14 states that measles and whooping cough are, at present, epidemic in that town. Over 125 cases of measles have recently been reported, and it is expected that it will be necessary to close several of the local schools.

BOSTON DISPENSARY.—A recent report of the Boston Dispensary states that the number of patients who visited that institution during the month of February, 1915, was 8251, a marked increase over the preceding month and the corresponding month of last year.

PREVENTION OF CANCER.—On Wednesday afternoon, March 10, Dr. Edward Reynolds of Boston, vice-president of the American Society for the Control of Cancer, delivered an address on the prevention of cancer before a meeting under the auspices of the committee of the American Medical Association on public health education and the department of public health of the Women's Municipal League of Boston. The total mortality from cancer in the United States in 1913 was about 75,000. A considerable number of such deaths may be regarded as preventable. On Wednesday afternoon, March 17, Dr. Joseph L. Goodale, of Boston, spoke under the same auspices on "Some Disturbances of the Nose and Throat Which Impair Efficiency."

REPORT OF THE BUTLER HOSPITAL.—The recently published seventy-first annual report of the Butler Hospital of Providence, R. I., records the work and progress of that institution for the calendar year 1914. During this period 253 patients were treated in the hospital with only 20 deaths. Several important special methods of treatment were particularly tested, especialy the use of salvarsanized serum in general paresis and tabes. Twenty nurses were graduated from the training school. The superintendent's report emphasizes the urgent need of an adequately equipped gymnasium, and the trustees call attention to the work already done in the way of fire protection and the need of important new outbuildings.

STATE CONFERENCE ON TUBERCULOSIS.—"What the Anti-Tuberculosis Organizations Can Do to Help the State Department of Health," is the subject to be discussed by the Commissioner of Health, Dr. Allan J. McLaughlin, at the first annual meeting and all-day conference of the Massachusetts Anti-Tuberculosis League, to be held at the Twentieth Century Club, 3 Joy Street, Boston, Thursday, April 1, 1915. The Secretary of the Trustees of the Massachusetts Hospitals for Consumptives, Dr. John B. Hawes, 2nd, will speak on "The Situation in Regard to the New Tuberculosis Hospitals," and Dr. Walter G. Phippen of Salem will give some interesting facts in regard to the local tuberculosis dispensaries, required by law. At the afternoon session, to be held at 2.30, Dr. Walter P. Bowers of Clinton will speak on "The Reporting of Tuberculosis by Physicians," and Michael M. Davis, Jr., director of the Boston Dispensary, will discuss "Tuberculosis Associations as Health Educators." "The Responsibility and Opportunity of the Teacher in Preventing Tu-

berculosis'' is to be treated by Dr. Thomas F. Harrington, director of school hygiene, Boston, followed by an address on ''Inspection of School Children,'' by Dr. Francis L. Dunham of Brookline. The chief inspector of incorporated charities of the State Board of Charity, Miss Amy F. Acton will tell of ''Some Observations of the Anti-Tuberculosis Work in This State,'' after which a general summing up of the afternoon session will be made by Mrs. William H. Lothrop of Newtonville. The conference is open to the public and will be in charge of its president, Dr. Vincent Y. Bowditch.

Harvard University Reports.—The recently published reports of the president and the treasurer of Harvard College include in the same volume, the reports of all the departments of the university for the academic year 1913-14. The president, in his report, calls attention to the opening of the Children's, Infants', Peter Bent Brigham and Collis P. Huntington Hospitals and to the appointment, by the United Fruit Company, of Dr. Strong as director of its hospitals in the West Indies and Central America. He also discusses various problems of internal organization of the Harvard Medical School, especially the questions of examinations and finance. Dr. Bradford's report, as dean of the Medical School, describes its activities during the year and refers in detail to the work of the several departments. He presents an interesting table, showing the comparative standing of the members of each class in the school at final examinations during the five years from 1910 to 1914, inclusive. Dr. Horace D. Arnold, in his report as dean of the Graduate School of Medicine, calls attention to the slight falling off in the number of students and receipts from the previous year, due apparently, to the general financial situation and to the European War. The report of the dental school, by Dr. Eugene H. Smith, summarizes the instruction and the clinical work in dentistry done at the school. During the year a total of 23,936 operations were performed by students and instructors in the school.

Report of Boston Medical Library.—The recently published thirty-ninth annual report of the Boston Medical Library records the activities of that institution for the year 1914. During this period there has been a net gain in membership of 42, and an increase of 4195 volumes and 984 pamphlets in the library.

Cases of Infectious Diseases reported to the Boston Board of Health for the week ending March 16, 1915: Diphtheria, 78, of which 2 were non-residents; scarlatina, 72, of which 10 were non-residents; typhoid fever 1, which was non-resident; measles, 167; tuberculosis, 56. The death-rate of the reported deaths for the week was 17.63.

Obituary

RIGHT HON. SIR GEORGE TURNER, F.C.M.G., M.D. LL.D.

The Right Honorable Dr. Sir George Turner, F.C.M.G., has recently died at Colyton, Devonshire, England, of leprosy contracted during his research work on that disease in South Africa. He was born at Melbourne, Victoria, on August 8, 1851, and received his medical education in that country, where he became prominent also in public life as a member of parliament, minister of customs, minister of health, minister of defence, and solicitor general. In 1894 he became premier and served also as president of the federal council of Australasia, chairman of its standing committee, and member of the Australian national federal convention. In 1901 he became treasurer of the Australian federal government.

Dr. Turner's most important medical work was done in South Africa, where he discovered the serum by means of which the rinderpest was eradicated. He served in a medical capacity during the Boer War and arrested an epidemic of typhoid fever, which was sweeping the military hospitals and concentration camps at that time. In 1901, while supervising the suppression of the second great epizoötic of rinderpest, he became interested in the study of leprosy in the leper asylum in Pretoria, where there were nearly one hundred Dutch and native patients. It was during this work, which Dr. Turner pursued for several years, that he himself contracted leprosy, after which he withdrew from his public offices and devoted himself solely to the study of that disease. A few years ago he finally returned to England, where he settled in a country estate in Devonshire, to await the end.

For his public services Dr. Turner was created a baronet in 1897. He is survived by his widow.

Miscellany.

MEDICAL EDUCATION IN CHINA.

In the issue of the Journal for March 11 we commented editorially on the work and recent progress of the Yale-in-China Medical School. On March 4 a letter from Dr. Edward H. Hume, chief of the medical department of Yale-in-China, outlined, in a New Haven publication, plans for the new Yale Hospital at Hunan, China.

''A campus is being planned for which twenty acres of land have been purchased outside the city wall of Changsha, and $56,000 has been raised by Yale men to construct buildings

on the plot. The Yale Hospital will be built on this campus, and a well-known firm of New York architects has already drawn plans for the buildings, which include, beside the hospital building, a dormitory, chapel and four buildings for professors.

"For eight years the Yale College in China has been carrying on its work within the city walls in crowded, unsanitary quarters. There are now enrolled 140 pupils in the school and college. Recently interest in this oriental branch of Yale College has become so manifest that many alumni gifts have been forthcoming. The hospital is the gift of a well-known Yale man."

Interest in occidental medical education in China is not limited either to Yale or to Harvard, though these have been the first American universities to establish and maintain hospitals and schools of medicine in that country. On March 7 it was announced in New York that the Rockefeller Foundation has decided to undertake a comprehensive plan for the improvement of medical and hospital conditions in China.

"For this purpose the Foundation has established a special organization to be known as 'The China Medical Board of the Rockefeller Foundation,' and plans as the first step toward effective work the development in China of medical education. This will include aid for the two or more medical schools in China, described as inadequately equipped, the strengthening of the staffs of the mission and other hospitals, assistance in the establishment of two modern tuberculosis hospitals, and the establishment of six $1000 scholarships, with travelling expenses, to enable Chinese graduates in medicine to prosecute further studies abroad, and of five scholarships to enable Chinese nurses to obtain training in this country."

In the establishment of these fellowships the purpose of the Foundation is to organize a body of Chinese physicians who in time will be able to assume leadership in teaching the medical sciences in their own country.

The action of the Foundation was based on the report of its special commission which, last year, made a personal study of the conditions of public health and medical practice in China.

"The commission was composed of Harry Pratt Judson, president of the University of Chicago; Dr. Francis W. Peabody of the Medical School of Harvard University; and Roger S. Greene, then consul general of the United States at Hankow.

"The China Medical Commission made numerous recommendations designed to meet the situation systematically, one of the primary ideas underlying the whole plan being to enlist the actual coöperation of both the missionary agencies and the Chinese people.

"The report of the commission has in its general outline been adopted by the Foundation as a basis for its work in China. Details, however, will be studied separately and each project will be taken up for definite decision."

In the report of this commission it is pointed out that,

"Not only have many preventable and easily curable diseases prevailed there, almost unchecked, from the earliest days down to present times, but intercourse with foreign countries and modern methods of communication have introduced into regions previously unaffected such scourges as bubonic plague and have contributed largely to the spread of other dangerous infections. So also have modern systems of transportation and of industry brought in an entirely new series of accidents and occupational diseases with which Chinese civilization is not yet prepared to cope. A special obligation, therefore, rests upon Western civilization to mitigate this suffering, for part of which it may be held directly responsible."

The personnel of the China medical board is further announced as follows:—

"John D. Rockefeller, Jr., chairman; Wallace Buttrick, director; President Harry Pratt Judson, President Frank J. Goodnow, Dr. Simon Flexner, Wickliffe Rose, Jerome D. Greene, Starr J. Murphy, John R. Mott, Dr. Francis W. Peabody, Dr. William H. Welch, Frederick T. Gates. E. C. Sage is secretary of the board, and Roger S. Greene is to be the resident director in China.

"The director of the board will have general administrative supervision over all its activities and particularly over the home office in New York. The resident director in China will have his headquarters in Pekin.

"The plan outlined by the commission looks forward to the development of medical education in China as the first step toward effective work. Before hospitals can be established in larger numbers, and before extensive work in public health and preventive medicine can be done, a large body of well trained doctors qualified to man hospitals and to administer public health measures must be secured.

"With a view to giving Chinese graduates in medicine opportunity to obtain their hospital training under proper supervision and to practice under favorable conditions, the Foundation intends to strengthen the staffs of the mission hospitals and other hospitals already existing in the vicinity of the medical schools aided.

"In hospitals thus more fully manned, young Chinese doctors will be employed as house officers or as visiting physicians, their compensation, when judged necessary, being paid by the Foundation. It is hoped that an intimate relation may be established between these hospitals and the medical schools near which they are located.

"It is proposed to enable the missionary societies to send out a larger number of well-trained nurses. An appropriation has also been made

for five nursing scholarships to enable Chinese nurses to come to the United States and secure a first-class training at some of the leading schools in this country. A small appropriation has been made for the translation of nursing text-books, and aid may be given to some nurses' training schools.

"China suffers very greatly from tuberculosis, and has at present no institution specially equipped for the treatment of this disease. The commission, therefore, recommends that the Foundation assist in the establishment of two model tuberculosis hospitals built and equipped according to the best modern practice."

Correspondence.

PARIS LETTER.

The Wounded on the French Battle Line.

(From Our Special Correspondent.)

Paris, February 17, 1915.

Mr. Editor: In my last letter I endeavored to convey some idea of the state of humiliation into which this horrible war has plunged the surgical fraternity; it may next be of interest to inquire a little into the question of the causes of this lamentable overthrow. But first let us look at a few real scenes representing what actually takes place on a battlefield of today. About a year ago a maid I had had for some time married a non-commissioned officer of artillery. This man appeared to me to be quite a decent chap, but very much like the ordinary run of men of that class, good-looking, with a big moustache and becoming uniform. He left at once for the Luxemburg front at the outbreak of war with his battery of seventy-fives, and ever since that time has been sending his wife letters that show me how deeply mistaken I was in my estimate of this young fellow, who is something quite out of the ordinary. He began up at Longguyon in all the early frontier fighting, retreated with his guns from position to position, had his horse blown to pieces beneath him, was promoted, and ended up at the battle of the Marne where for five days and nights his cannon hurled death and destruction into the ranks of the Germans. Since that time his battery has seen less active service. He writes quires on quires, in a small neat hand, and in a style that is quite extraordinary for a man in that station; his long and minute descriptions of the fighting are so real that you can almost fancy yourself present; and they are interspersed at intervals with lurid and sulphurous curses and execrations of the enemy that ought to have set the mail-pouch on fire, alternating with transports of love, poetry and sentiment for the young wife he had to leave so soon behind him, and patriotic and religious effusions. The whole thing makes a mixture such as I imagine was never seen in print before, and I have strongly advised the young woman to keep these letters for possible literary use. In the meantime here are a few extracts concerning the effects of artillery fire, as an illustration of the fact which must always be borne in mind in speaking of the surgery of this war, that it is *a war of artillery*, whereas rifle fire has been relegated altogether to a lower plane.

After describing the death of his adjutant, who with his horse was simply blown to bits, so much so that they could hardly find enough of him to warrant burial, he continues: "I was sent ahead to reconnoitre, and after fastening my horse to a tree, crawled as flat as I could on all fours for several hundred yards, fearfully bothered and scratched by the briars that seemed to be everywhere. Finally I reached a hummock from which I could make out through the glass *masses* of German infantry and artillery crouching and hiding in some oatfields near a wood. Signalling this back to the captain of the guns, which had been masked separately here and there, they at once opened fire. *Never* shall I forget those oatfields! We felt for the exact range with shrapnel, and as soon as we had got it we let them have it with high explosion shell! Ah! the horrors of war, . . . arms, feet, fragments of bodies danced and flew in the air; we rallied and we mowed; other cannon and batteries joined in, and we hid them all under trees, or covered them with fresh branches, so that the enemy's aeroplane could not spot us. The Germans, on their side, 'watered' our region with heavy guns, but without finding us; a wood interfered with their work, so that their shells passed over and back of us. In three hours' time we killed upwards of 2000 of the troops discovered in those fields; three-quarters of them must have remained there for good, only a small portion having the courage to rise and make a bolt for it, so terrible was the effect of our shell-fire."

Later on; the same day.

"The Captain sends me for orders to the major, and then to the general, and we are informed that two kilometres to our left four mitrailleuses are onto our infantry and doing much damage. We leave our position at full trot, and take up another one, and then once more we give it to them with melinite shells, . . . melinite shells, . . . let her go, boys! I am lying on a ridge 300 metres in front of our cannon, in observation with the captain, who is now beyond shouting, his voice having given out; so he tells me the elevations and corrections and I yell them back to the guns. We are next notified that some German infantry is massed in a ravine in a certain direction, so we lengthen our range, and rôôff! . . . rôôf! . . . on it goes! The enemy is finally driven out, and our men of the line find 800 dead in that place, with three mitrailleuses out of service."

And so he continues, by the chapter. When he has written himself dry one day he closes and takes the story up in his next. At the Marne a big German shell falls right among his "avant-trains" (horses and caissons), hurling him head over heels in a cloud of asphyxiating smoke; but he picks himself up without a scratch, to find four of his gunners laid out, three severely wounded. Another shot kills nine horses and sets the shells in his caisson aburning; "but," he explains to his wife, "as they were not 'set' they merely burned with a yellow fume, and did not explode!" According to the German casualty lists, in some of those early encounters, when they simply hurled on battalion after battalion in massed formation against such fire as this, certain regiments lost 2500, 2800, 3000 and over, out of their approximate 4000. At one of the battles on the Meuse a French artillery officer wrote that *for seven consecutive hours* his guns fired into visible masses of Germans, until men and officers were utterly exhausted and practically deaf! Such tales as these enable us to understand that in this conflict the casualty lists have been something altogether unprecedented; after the battle of the Marne the French are said to have had upwards of 110,000 wounded to cope with, and the entire losses of the Germans are now certainly well up in their second million,—in fact they were authoritatively reported recently in the House of Commons as 2,250,000. These accounts also enable us to understand what the nature of a large part of these wounds must be. The modern rifle-wound, that does not kill outright, is a fairly safe investment; the force of penetration of the shrapnel ball is slight, and can be stopped by a helmet, tin-can, or even leather strap,—so that if you do not happen to be directly in the axis of progression

of the projectile itself previous to explosion, your chances here are still fair; but the melinite, high-explosive obus of the French artillery is a *terrible* affair, and when the war is over the Germans will have something interesting to report on this score!

There has been a pretty widespread feeling among people here as regards the handling of the French wounded; all has not been altogether as it should be, in this war. All reports agree that the soldiers have been *admirably* fed, and that they have been well looked after, in general, as regards outfit, munitions, and even comforts; so that everything has gone as well as it could in wartime, until a man had the misfortune to be wounded,—from then on accounts have been less satisfactory. To such a point has this feeling been carried that a député, himself under arms, told me personally that he had tackled the head of the Service de Santé one day, and wagging his finger offensively under his nose, had said to him: "Monsieur! the day when some French mother *kills* you, she will have rendered service to her country." I don't believe myself that this fellow ever did anything of the sort, because if he had the other chap would have knocked his head off then and there; I merely cite the incident to show how he felt on the matter. On the other hand, the army medical department claims that they were utterly swamped; that no one ever expected to have to handle such quantities of wounded. I read in the papers that at one period, on the western scene of war only, the wounded were pouring back to Germany at the rate of forty to fifty thousand *per week*. However, all this may be, let us take a given man, wounded on the battlefield, and see what is likely to become of him, in *our* neighborhood; this may lead us to some explanation of this universal suppuration, with gangrene and tetanus.

Not only has a large percentage of wounds in this war been due to bursting shells, but the situation of the wounded has been made infinitely more serious by the increased range of modern arms, and by the aeroplane. The depth of the danger zone back of the actual firing-line is now several kilometres, and, save when your own side happens to be advancing pretty steadily, any such thing as first-aid or stretcher work *during the daytime* is practically out of the question, — it cannot be undertaken until night, and even then often at the greatest risk, with all these aerial flares, and searchlights, as the melancholy tale of killed and wounded among the army-surgeons reveals only too plainly. Consequently, the wounded man must either bandage himself with his emergency-dressing, or call on a comrade to do so. I do not know whether this dressing has been modified or not; but certainly in the early part of the war it was quite insufficient for anything except the simplest of wounds, bullet wounds of the hand, fore-arm, foot, etc. For wounds of the thigh, shoulder, thorax and even head, it proved quite inadequate; everyone knows how much material is necessary for a thigh or thorax wound.

Again. Although everyone has been using tincture of iodine over here for years now as an emergency antiseptic, the war had been in progress a good three months before it occurred to anyone that it might be a good thing to add a little tube of this material to the soldier's emergency package; and even when this was done the tube was really too small for serious shell wounds. A man with part of his thigh or hip blown away was not likely to derive much protection from a tiny tube containing one c.c. of tincture of iodine, yet these were really the men who needed it, as the bullet and shrapnel wounds, as a general thing, were fairly clean and took care of themselves.

According to schedule the wounded man was supposed to make his way in some manner or other to the *poste de premier secours*, whence he was to be forwarded to the supporting ambulance, and from there to the nearest evacuation railroad station. This looked very nice on paper; but with a battle-front of some hundreds of kilometres, and with the wounded piling up at the rate they did during active operations, one does not need to have a very active imagination to realize what actually occurred. Badly wounded men, with farcical dressings or none whatever, lay for days before they were found at all. Such as reached the ambulance accumulated there, the staff was overwhelmed, and supplies gave out. It was found that the devices for clearing out the ambulance wounded and getting them off to partial salvation, the railroad, were quite inadequate; such motor ambulances as existed were too big and too heavy, what was required being a small, handy, light affair, that could go over any kind of ground and turn round on a five-franc piece. Even when these wretched creatures reached the trains, their troubles were not even half over! A general's problem is first to have troops, and to supply them with all the munitions they require; secondly, to feed them properly; and only in the third place, and when *everything* else has been seen to, can he think of his waste, the wounded! The result can be imagined. The wounded had to be put in such care as was available, and had to be transported on the devil's own schedule, —that is, every other sort of train, of whatever description, had the right of way against them. When Joffre was in a hurry he sent his troop-trains along *both* tracks, that is, on both the up and down lines; consequently every train of wounded had to be on a siding until the entire strategic movement had taken place! Now as they were pretty usually freight cars, without the slightest pretence to a convenience, non-intercommunicating, and very often without surgeons, nurses, dressings or food,—you can once more let your imagination dwell on the situation and see the tableau. One of the members of the medical society here reported recently an instance in which a consignment of typhoid cases had been *five days* on their way to Paris from the front, an actual running distance in time of peace of between two hours as a minimum and five as a maximum; these patients appear to have had no care of any kind under way, not even enough to drink, and the mouths of several of them were in such a state on arrival that they developed suppurative parotitis from which they died.

Quantities of wounded were evacuated in trains that had transported cavalry and artillery. Furthermore, at all points where a damming up of patients occurred, there was no question of beds for them, of course, and they were put in every available quarters, usually on straw,—in box-cars, canal-boats, churches, freight-sheds, etc. Is it, then, any wonder that those hundreds of cases of tetanus occurred, with the disorder's well-known, frightful mortality? Nor had any provision been made for an adequate supply of anti-tetanic serum, nor was it in the proper place, in the very first line,—since its only action is as a preventive. It is rather a curious point to know that tetanus has developed in men without any wound whatever: I know of a case in which a man died from tetanus after a simple frostbite of the foot; and Sicard recently reported three other similar instances! This really seems like hard luck.

However, supposing our man past all the obstacles already referred to, was he then in a safe harbour? I am very much afraid not. The greater part of this work consisted in the most serious form of major surgery,—the very biggest thing of its kind. Now I need scarcely remark that under ordinary circumstances really first-class surgeons are few and far between, and that even the cream of these have never seen such butchery as they have been up against daily since the war began. These men, therefore, could not even *begin* to cover the ground, and by far the larger part of the wounded had consequently to be turned over to just pretty much anybody. Up to a certain point this was of course an ineluctable necessity; it was not possible to keep on hand a sufficient number of trained surgeons for the eventuality of such a war as this. But there is a side to the question that has

hitherto not been made clear to me. That in the early stages of the war, when Paris was actually menaced, the authorities should have been opposed to letting the wounded be brought to the capital, where were all the facilities and highest skill, is more than comprehensible; but that this should have continued to be the case all through the war, is quite beyond *my* mental grasp. Numbers of well-equipped and well-staffed ambulances in this city have been given up, because they never saw a soldier. The administration's main idea seems to be, *anywhere* rather than Paris! It is fair to presume that there must be grounds for this attitude; but they are certainly not apparent to the man in the street.

We now come to the final point in this matter,—the nursing of the wounded. Here we are on terribly dangerous soil; walking on egg-shells is mere child's play by the side of this burning question. It has, of course, long been known that these people have not kept pace with other countries in matters of nursing the sick. Be the reasons what they may, the fact is incontrovertible, and admitted by them without circumlocution. Physicians who have spent any time in the wards of a Paris hospital have seen for themselves how matters stand there in time of peace; and anyone who has practised here knows about what goes on in cases of illness in private houses. With a view to meeting the demand that everyone foresaw must arise in the event of war, a variety of women's organizations were formed, some social, others religious and still others among ladies merely desirous of being of use and of doing their duty in the hour of need. Everyone recognized the devotion, willingness, energy and heart that these ladies have put into their almost superhuman task; but I think that just as everyone sees that the ordinary local practitioner, the man who under normal circumstances would pass a bad night in anticipation of the removal of a wen from his most valued patient, is absolutely incapable of rising to the emergency of the major surgery of warfare, so everyone now sees that no amount of kindness of heart or untiring zeal can take the place of the trained professional nurse at the bedside of a dengerously-wounded man. War-nursing does not consist in "the soothin' of fevered brows," as has been picturesquely remarked, and it is really necessary that a suitable nurse should know such details as which end of a bedpan to present to a bedridden patient. I refer here to an incident that actually occurred! In fact, if I may be allowed so to remark, I could here a tale unfold, but must refrain, the atmosphere being altogether too charged with electricity. It would not surprise me much if one of the happy outcomes of this dreadful war will be the introduction into France of the professional nurse as understood in England and America.

In conclusion,—I think that I have said enough, many, many times enough, to explain why the wounds in Paris suppurate, and why the surgical clan's pride is reposing humbly in the dust. "S."

PATENT MEDICINES AND QUACKERY.

BOSTON, MARCH 12, 1915.

Mr. Editor: Within a few weeks Mr. Norman Hapgood spoke before a representative body of physicians, complimenting them on their virtues as members of a noble profession, and frankly telling them of some of their faults. Mr. Hapgood is a staunch friend of the medical profession and should be no stranger to it. He is a standard bearer in our fight against Patent Medicines and Quackery. The *Journal of the American Medical Association* is doing notable work, but is hampered in its influence by being a medical publication. The medical profession certainly should not need education in the matter of the harmfulness of the nostrum. The exploitation of one "fake cure" after another, however, classifies the individual physician's previously vague information. Of vastly greater significance is the work done in the popular press which, as it were, hits the bull's eyes and is disseminated among the innocent victims of this great evil, who need education in the dangers of the patent medicine habit. The *Harper's Weekly* is prosecuting a vigorous fight against this monster. The medical profession by an intelligent and hearty cooperation could at least hold the mirror up so that the fighter might sever the Gorgon's head. As physicians we can aid by making individual conversions and by never again prescribing a patent article just because of its convenience. Of course it does not always do harm, but every additional bottle sold encourages somebody to make his own diagnosis and get to the stage where medical science cannot succor him.

The least we can do at once is to help Mr. Hapgood by subscribing to the *Harper's Weekly* and spreading the gospel to those in our waiting rooms.

Very truly yours,

HUGH P. GREELEY, M.D.

SOCIETY NOTICES.

NORFOLK SOUTH DISTRICT MEDICAL SOCIETY.—Meeting for medical improvement at United States Hotel, Boston, Thursday, April 1st, 1915, at 11.30 A. M.

Reader, John W. Lane, M.D., of Boston, Mass., for M. T. Sweeney, M.D., of Norfolk Downs. Subject: Appendicitis.

F. H. MERRIAM, *Sec.*,
South Braintree, Mass.

NEW ENGLAND OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.—The next meeting of the New England Otological and Laryngological Society will be held on Tuesday evening, March 30th, at the Boston Medical Library at 8 o'clock. Program:

1. Gunshot Wound of Orbit and Pharynx, Dr. W. F. O'Reilly.
2. Fatal Hemorrhage Following Tonsil and Adenoid Operation, Dr. E. A. Crockett.
3. Death Immediately Following Tonsillectomy Under Local Anesthesia, Dr. D. Crosby Greene.
4. An Operation for Chronic Frontal Sinus Suppuration, Dr. Howard A. Lothrop (By invitation).
5. The Type of Voice in Tabes, Dr. W. B. Swift (By invitation).

WILLIAM F. KNOWLES, *Sec.*

NEW ENGLAND BRANCH OF THE AMERICAN UROLOGICAL ASSOCIATION.—There will be a meeting of the Society on Tuesday, March 30th, at 8.15 P. M., at the Harvard Club of Boston. Program:

1. Presentation of specimens, instruments, etc., and the report of cases.
2. Experimental and Clinical Observations on the Blood Pressure in Spinal Anesthesia, Dr. George G. Smith, Boston.
3. A New Preparation for Pyelography, illustrated, Dr. E. L. Young, Jr., Boston.
4. Some Unsettled Points in the Preparation for and Technic of Suprapubic Prostatectomy, Dr. Paul W. Pilcher, Brooklyn, N. Y. Discussion.

R. F. O'NEIL, M.D., *Sec.*

THE NORFOLK DISTRICT MEDICAL SOCIETY.—A regular meeting of the Society will be held at the Boston Consumptives' Hospital, 249 River street, Mattapan, Tuesday, March 30th, at 3.30 P. M., sharp.

Tour of the Hospital, 3.30 to 5.00 P. M., business meeting and program, 5.00 P.M. Program:

1. The Organization and Management of the Consumptives' Hospital, Edwin A. Locke, M.D.
2. Relation of the Private Physician to the Out Patient Work of the Boston Consumptives' Hospital, Cleaveland Floyd, M. D.
3. Tuberculosis in Children and Adults with New Aspects on the Von Pirquet Test, T. J. Murphy, M.D.

Dinner at 6.30 P. M.

The censors will meet May 13th, at 2.00 P. M., for the examination of candidates.

BRADFORD KENT, M.D., *Sec.*
798 Blue Hill Ave., Dorchester.

CHANGES IN THE MEDICAL CORPS, U. S. NAVY, FROM FEB. 12, TO MARCH 13, 1915.

February 15, P. A. Surgeon H. W. Cole, detached, *San Diego* to *Colorado*.

February 15, Surgeon L. L. Von Wedekind, to Marine Recruiting Station, New York, N. Y.

Asst. Surgeon A. T. Weston, M.R.C., detached, Marine Recruiting Station, New York, N. Y.

February 23, Asst. Surgeon W. E. Stevens, commissioned, Jan. 23, 1915.

February 26, P. A. Surgeon H. F. Lawrence, detached, Hospital, Newport, to New York Hospital.

March 1, Surgeon C. E. Ryder, detached, *Cincinnati* to home, wait orders via March 15, Transport.

P. A. Surgeon Heber Butts, detached, *Monterey;* to home, wait orders, via April Transport.

Asst. Surgeon P. B. Ledbetter, detached, Naval Hospital, Olongapo, P. I., to home, wait orders, via March 15 Transport.

Asst. Surgeon R. H. Laning, detached, *Saratoga* to home, wait orders, via April 15 Transport.

Asst. Surgeon R. F. Jones, detached, Naval Hospital, Canacao, P. I. to home, wait orders.

March 3, P. A. Surgeon J. C. Parham, commissioned from July 7, 1914.

March 10, Surgeon H. C. Curl, detached, *West Virginia* to *Maryland*.

Surgeon J. D. Manchester, detached, *Maryland* to home, wait orders.

P. A. Surgeon J. C. Parham, detached, *St. Louis*, April 1, 1915, to home and wait orders.

BELGIAN PHYSICIANS' RELIEF FUND.

REPORT OF THE TREASURER OF THE COMMITTEE OF AMERICAN PHYSICIANS FOR THE AID OF THE BELGIAN PROFESSION FOR THE WEEK ENDING MARCH 13, 1915.

CONTRIBUTIONS.

Dr. Frank Slopanskey, Helper, Utah	$ 5.00
McKees Rocks Med. Soc. McKees Rocks, Pa.	6.50
Dr. James M. Anders, Philadelphia, Pa.	15.00
Dr. Charles M. Green, Boston, Mass.	25.00
Dr. J. M. Miller, Hickory, Pa.	5.00
Dr. John Woodman, New York, N. Y.	10.00
Dr. R. L. Bradley, Roswell, New Mexico	5.00
Dr. Everett D. Peek, Thompson Falls, Mont.	25.00
Dr. Charles L. Minor, Asheville, N. C.	15.00
J. M. H., Ft. Logan H. Roots, Ark.	5.00
Dr. Fred E. Thompson, Detroit, Mich.	25.00
Dr. Alfred H. Tickell, Nevada City, Cal.	2.00
Dr. Z. H. McClanahan, Colorado Springs, Col.	5.00
Dr. C. Dunbar Roy, Atlanta, Ga.	5.00
Hempstead Academy of Medicine, Portsmouth, Ohio	10.00
Dr. Halsey Beach Loder, Boston, Mass.	5.00
Dr. and Mrs. James R. Judd, Honolulu, Hawaii	25.00
Dr. Hugh T. Patrick, Chicago, Ill.	25.00
Receipts for week ending March 13	$ 218.50
Previously reported receipts	4611.50
Total receipts	$4830.00
Previously reported disbursements	$4614.60
Disbursements week ending Mar. 13:	
90 boxes of food @ $2.30	207.00
Total disbursements	$4821.60
Balance	$8.40

F. F. SIMPSON, M.D., *Treasurer*,
7048 Jenkins Arcade Bldg.,
Pittsburg, Pa.

INTERSTATE ASSOCIATION OF ANESTHETISTS.

The Interstate Association of Anesthetists will hold its organization meeting in conjunction with the Ohio State Medical Association in Cincinnati, Ohio, May 4-5, 1915, at which time an elaborate scientific program devoted exclusively to recent advances in anesthesia and analgesia will be presented.

Headquarters, assembly room and exhibits will be in the New Hotel Gibson, in which all the sections of the Ohio State Medical Association will also meet. An informal organization dinner will be served on the evening of May 4, after which the visiting anesthetists will be the guests at a smoker, of the local entertainment committee, headed by Dr. E. O. Smith. Visiting ladies will be entertained by Dr. Nora Crotty and her committee at a reception and theatre-party.

Anesthetists, surgical and dental, as well as interested surgeons and general practitioners who wish to participate in the proceedings are cordially invited to attend. For further information and dinner reservations address,

F. H. MCMECHAN, M.D., *Secretary*,
1044 Wesley Ave., Cincinnati, Ohio.

SOCIETY NOTICE.

NEW ENGLAND PEDIATRIC SOCIETY.—The thirty-seventh meeting of the New England Pediatric Society will be held in the Boston Medical Library, Friday, March 26, 1915, at 8.15 P.M.

The following papers will be read:

1. "The Management of Breast Feeding with Case Reports," Dr. C. K. Johnson, Burlington, Vt.
2. "Air and Water as Curative Agents," Dr. Roland G. Freeman, New York City.

Light refreshments will be served after the meeting.

E. M. BUCKINGHAM, M.D., *Pres.*
RICHARD M. SMITH, M.D., *Sec.*

APPOINTMENTS.

BOSTON DISPENSARY.—At the last meeting of the Board of Managers, the following appointments were made: Consultant pathologist, *Dr. Frank B. Mallory; Dr. Wolfert G. Webber*, assistant to physicians, General Medical Department; *Dr. Harold B. Eaton*, assistant to the physicians, General Medical Department; district physicians, *Dr. George H. Binney;* district physician, *Dr. William F. Temple, Jr.*

STATE HEALTH COUNCIL.—Governor Walsh has appointed *Mr. William P. Nickerson* of Norwood, Mass., to succeed Dr. Milton J. Rosenau as a member of the Massachusetts State Health Council.

RECENT DEATHS.

DR. HORACE THAXTER SEARS, who died of pneumonia in Boston recently, was born at Medfield, Mass., on May 10, 1867. After studying dentistry, he settled in Boston where he continued active in the practise of his profession until his death. He was unmarried.

DR. HENRY S. NOBLE, who died at Waterbury, Conn., on March 16, was born in 1844. He was a graduate of Tufts College and of the New York College of Physicians and Surgeons. Since 1900 he had been superintendent of the Connecticut State Hospital for the Insane.

BOOKS AND PAMPHLETS RECEIVED.

A Study of Locomotor Ataxia, by C. H. Burton, M.D., and Frank Burton, B.S.

Official Register of Harvard University. Reports of the President and the Treasurer of Harvard College, 1913-14.

Cystoscopy and Urethroscopy for General Practitioners, by Bransford Lewis, M.D., and Ernest G. Mark, M.D. P. Blakiston's Son & Co.

A Text-book of the Practice of Medicine, by Hobart Amory Hare, M.D. Lea & Febiger, 1915.